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PUBLISHED UNDER THE AUTHORITY OF THE GOVERNMENT OF INDIA

# EPIGRAPHIA INDICA

AND

RECORD OF THE ARCHÆOLOGICAL SURVEY OF INDIA

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Vol. XVII, 1923-24.

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EDITED BY

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GOVERNMENT EPIGRAPhist FOR INDIA.



CALCUTTA:

MANAGER, GOVERNMENT OF INDIA CENTRAL PUBLICATION BRANCH.

BOMBAY: BRITISH INDIA PRESS.

LONDON: KEGAN PAUL, TRENCH,  
TRÜBNER & Co.

NEW YORK: WESTERMANN & Co.  
CHICAGO: S. D. PEET.

PARIS: E. LEROUX.

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# CONTENTS.

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	PAGE.
<b>L. D. BARNETT, M.A. :—</b>	
No. 2. Tumbaga Inscription of the reign of Satyasraya; Saka 926 . . . . .	7
„ 9. Momigatti Inscription of the 49th year of Vikramāditya VI . . . . .	117
„ 10. Arasibidi Inscription of the reign of Somesvara I: Saka 969 . . . . .	121
<b>R. BASAK, M.A. :—</b>	
No. 23. Dhanaidaha Copper-plate Inscription of the time of Kumaragupta I: the year 118 . . . . .	345
<b>N. K. BHATTASALI, M.A. :—</b>	
No. 13. The Kedarpur Plate of Srichandradeva . . . . .	188
„ 24. Some Image Inscriptions from East Bengal . . . . .	349
<b>K. N. DIKSHIT, M.A. :—</b>	
No. 13. A note on the dates of the Gupta copper-plates from Damodarpur . . . . .	193
„ 25. A note on the Vakataka inscription from Ganj . . . . .	362
<b>T. A. GOPINATHA RAO, M.A. :—</b>	
No. 5. Mandagappattu Inscription of Vichitra-Chitta . . . . .	14
„ 6. Srirangam Copper-plate grant of Devaraya II: Saka 1349 (1350) . . . . .	110
<b>Y. R. GUPTA, B.A. :—</b>	
No. 3. A Naga figure in the Mathura Museum . . . . .	10
<b>HIRANANDA SASTRI, M.A., M.O.L. :—</b>	
No. 17. The Nalanda copper-plate of Devapaladeva . . . . .	310
<b>E. HULTZSCH, PH. D. :—</b>	
No. 1. Gudimallam Plates of the Bana king Vikramāditya II . . . . .	1
„ 18. Mattepad Plates of Damodaravarman . . . . .	327
„ 19. Utlam Plates of Hastivarman; the year 80 . . . . .	330
„ 20. Ipur Plates of Govindavarman's son Madhavavarman . . . . .	334
„ 21. Ipur Plates of Madhavavarman II . . . . .	337
„ 22. Revised Text and translation of two of the Kuram Plates . . . . .	340
<b>H. KRISHNA SASTRI, B.A. :—</b>	
No. 16. Velvikudi Grant of Nedunjadaiyan: the third year of reign . . . . .	291
<b>R. SEWELL, I.C.S. (retired) :—</b>	
No. 6. The First Arya-Siddhanta: Mean System . . . . .	17
„ 11. The Brahma-Siddhanta of Brahmagupta (A. D. 628) . . . . .	123
„ 15. The Brahma-Siddhanta of Brahmagupta, A. D. 628: Mean System . . . . .	205
<b>K. V. SUBRAHMANYA AYYAR, B.A., M.R.A.S. :—</b>	
No. 14. Somalapuram Grant of Virupaksha: Saka 1389 . . . . .	193
<b>V. S. SURETHANKAR, PH.D. :—</b>	
No. 4. A Vakataka Inscription from Ganj . . . . .	12
„ 7. Two new grants of Dhruvasena I from Palitana . . . . .	105
<b>INDEX . . . . .</b>	<b>263</b>
Title page, Contents, List of Plates and Additions and Corrections . . . . .	i—xiii



# LIST OF PLATES.



No. 1.	Gudimallam plates of the Bana king Vikramaditya II . . . . .	between pages	4 & 5
„ 2.	Māthura Naga Image inscription; the year 8 of Kanishka . . . . .	„ „	10 & 11
„ 3.	A Vakataka inscription from Ganj and Mandagappattu inscription of Vichitra-Chitta . . . . .	to face page	12
„ 4.	Two Palitana Grants of Dhruvasena [I] . . . . .	between pages	108 & 109
„ 5.	Srirangam Copper-plate of Devaraya II : Saka-Samvat 1349 (1350) . . . . .	„ „	114 & 115
„ 6.	Velvikudi grant of Nedunjadaiyan : the third year. Plate I . . . . .	„ „	298 & 299
„ 7.	„ „ „ „ „ „ „ Plate II . . . . .	„ „	300 & 301
„ 8.	Nalanda plate of Devapaladeva . . . . .	„ „	320 & 321
„ 9.	Mattepad plates of Damodaravarman . . . . .	„ „	328 & 329
„ 10.	Urlam plates of Hastivarman : the year 80 . . . . .	„ „	332 & 333
„ 11.	Ipur plates of Govindavarman's son Madhavavarman . . . . .	„ „	334 & 335
„ 12.	Ipur plates of Madhavavarman II . . . . .	„ „	338 & 339
„ 13.	Plates III & IV of the Kuram grant of Paramesvaravarman I, . . . . .	„ „	340 & 341
„ 14.	Dhanadaha copper-plate of the time of Kumaragupta I : the year 113 . . . . .	to face page	347
„ 15.	Some Image inscriptions from East Bengal . . . . .	„ „ „	356





# ADDITIONS AND CORRECTIONS.

Page 2, l. 5.—For *-viddhyud-* read *-viddhyā-*

„ „ „ 24.—For (*puram*) read (*puravā*).

„ 6, Translation of l. 37—Śivāṅkāśrayābhyah translated “who resided near (the temple of) Śiva” suggests that the recipient Brahmins had their homes near the Paraśurāmōśvara temple at Guḍimallam, for which there are not sufficient indications at present. Perhaps a better interpretation of the compound would be Śivāṅkānāṁ āśrayāḥ, the abodes of symbols (such as ashes, beads, liṅga etc.) of Śiva.

„ 10, l. 15.—For *Chāṇḍāla* read *Chāṇḍāla*.

„ 11, Text l. 3.—[Possibly *Niya* was the name of the carpenter (*raḍaki*) who made the gift.—H. K. S.]

„ „ l. 38.—For *Bhūmi naga* read *Bhūmināga*.

„ 12 „ 8.—For *blocks* have read *block* has.

„ „ last line.—For *before r*, read *after r*,

„ 13.—Insert at the end of the introduction on page 13. [Prof. Hultsch and Mr. K. N. Dikshit have simultaneously invited my attention to Dr. Sukthankar's omission to have noted the very important paper on the Poona plates of the Vakāṭaka queen Prabhāvatī Guptā, the daughter of the Gupta Emperor Chandra Gupta II, which Messrs. Dikshit and Pathak had together published on p. 39 of Vol. XV of the *Ep. Ind.* From this it is clear that Prabhāvatī Guptā and her husband Rudrasēna II, the sixth in descent from Pravarasēna II, were contemporaries of Chandra Gupta II, the son and successor of Samudra Gupta of the beginning of the 5th Century A.C. Consequently, the Gaṅj inscription which, palaeographically is ascribed to be that of Prithviśhēna I, must belong to about the end of the 4th Century A.C.; but it is very unlikely that the Prithviśhēna of this inscription is the first of that name. If, however, he is the second, the record may be roughly referred to the beginning of the 6th Century A.C.—H. K. S.]

Page 15, f. n. 2, 4th line—for श्री महेन्द्रविक्रमवर्मा read श्रीमहेन्द्रविक्रमवर्मा

„ 18, l. 16—insert comma after 307.

„ 106, l. 11—For *bhāṭa-rāṭa*<sup>o</sup> read *bhāṭa-rāṭa*<sup>o</sup>.

„ „ paras. 3 & 4.—[Dr. Sukthankar in criticising Dr. Sten Konow with regard to the meaning of प्रावेश्य has not noted the significance of the word एतत् which occurs in एतत् प्रावेश्य of line 4 of the Khariar grant of Mahāsudēva where two villages Navannaka and Śāmbilaka adjoining Navannaka, were granted. There is, thus, no indication of Navannaka being a territorial division expressed by the term प्रावेश्य added to it as supposed by Sukthankar, whereas प्रावेश्य as an independent word indicates certainly the sense of proximity, or better, a dependence on the village immediately mentioned before it.—Ed.]

„ 107, Text, l. 10.—Insert कवि after स्वामायुक्त

„ „ f. n. 6.—For द्वेव read द्वेव.

„ „ „ 7.—For बालवाच्य read यामि बालव्य



Page 108.—*Inscription B.*—The missing second plate of this inscription has been discovered at Iyāveja by Mr. D. B. Diskalkar, M.A., Curator, Watson Museum of Antiquities, Rajkot, and will shortly be published by him in this journal.—Ed.

- „ 108, f. n. 2.—For *upadhmāntya* read *upadhmāntya*.  
 „ 109, l. 10.—Dr. Sukthankar is not right in his guess; for the *dātaka* of the grant as found in the missing plate is Rudradhara. But the writer was Kikkaka, here spelt Kikaka.—Ed.  
 „ 109, f. n. 2.—For *Dhruvasōna* read *Dhruvasēna*.  
 „ 110, l. 3.—For *Rotghamitra* read *Rotghamitra*.  
 „ „ l. 5.—For *Āśvina* read *Āśvayuja*.  
 „ „ Text l. 7.—For *-gītan* read *-gītau*.  
 „ „ „ 8.—For *āchchhettā* read *āchchhettā*.  
 „ „ „ 9.—To =vū, add the footnote 'Read =vā'.—Ed.  
 „ „ „ 11.—For *Kikkakena* read *Kikkakēna*.  
 „ „ f. n. 2.—For *āgami* read *āgāmi*.  
 „ \* 111, l. 3.—For '34' read '33'.  
 „ „ „ 8.—For 'these two sets' read 'this set'.  
 „ „ „ 16.—For *Tirunalūr* read *Tirunālūr*.  
 „ „ „ „ —For *°nallūr* read *°nalūr*.  
 „ „ „ „ —For *'Sunepuha°'* read *'Sunaipuha°'*.  
 „ „ „ 17.—Insert after '*Nārāyaṇāmbikā*', "or *Nārāṇadēvi-auva*."  
 „ „ „ 11 from the bottom.—For *Tirunalūr* read *Tirunālūr*.  
 „ „ „ „ „ „ For *°perumā-nallūr* read *°perumā-nalūr*.  
 „ „ „ 10 „ „ For *Sune°* read *Sunai°*.  
 „ „ „ 9 „ „ For *Mēlmurī* read *Mēlemuri*.  
 „ „ „ „ „ „ For *Maḷa-nādu* read *Maḷa-nādu*.  
 „ „ „ 8 „ „ Insert before 'villages', "first three".  
 „ „ „ 7 „ „ For *Tiruchohirāppalli* read *Tiruchchirāpalli*.  
 „ „ „ 5 „ „ Insert after 'twelve' the following : " *haricāyas* of food should be supplied, one".  
 „ „ „ „ „ „ For lumps read lamp.  
 „ „ „ „ „ „ Insert after 'burned' "one".  
 „ „ „ „ „ „ For garlands read garland.  
 „ „ last line.— For 1,82 read 1,823.  
 „ 112, l. 2.—Insert '*rāṇ-payir*' after '*punsey*'.  
 „ „ „ „ For '*ppēru°*' read *°pperu°*.  
 „ „ „ 3.—Cancel (*taṇi-kaḍumai*).  
 „ „ „ „ For *ālukku°* read *oḷukku°*.  
 „ „ „ 4.—For *kaṭṭigai-avasaram* read *kaṭṭige-avasara*.  
 „ „ „ „ For *paṭai-kāṇikkai* read *paṭai-kāṇike*.  
 „ „ „ 10.—For *Pār* read *Pēr*.  
 „ „ „ 11.—Omit the passage from *Ālukku°* to *nṛāṇikkam* in l. 13.  
 „ „ „ 13.—For *Magamai* read *mahamai*.  
 „ „ „ 17.—For *Kaṭṭigai-avasaram* read *Kaṭṭige-avasara* and add in a foot-note [This term does not indicate any tax on firewood as the author suggests but may have to be connected with *kaṭṭige-yava*, a mace-bearer, or in this case the village servant who carries the staff of office with him.—Ed.]

\*[The following numerous corrections on pp. 111 to 117 have been necessitated by the proof being passed by the office in the belief that it had been revised by the author].

- Page 112, l. 18.—For -kkāṇikkai read kṇāṇike.
- „ „ „ 23.—For Tiruchchirāppallī read Tiruchchirāpalli
- „ „ „ 23.—For Tirunalūr read Tirunālūr.
- „ „ „ 24.—For Śēranai° read Śēranai° and for °nallūr read °nalūr.
- „ „ „ 24.—For Melmuṇi read Mēlomuri.
- „ „ „ 24.—For Maḷa-nāḍu read Maḷa-nāḍu.
- „ „ „ 24.—For Suno° read Sunai°.
- „ „ „ 26.—For Tiruchchirāppallī read Tiruchchirāpalli.
- „ „ „ 29.—For Maḷa-nāḍu read Maḷa nāḍu.
- „ „ „ 33.—For Tirunalūr read Tirunālūr and insert after it, [-Tirunallūr].
- „ „ „ 33.—For Śēranai° read Śēranai°.
- „ „ „ 34.—For °ma-nallūr read °mā-nalūr.
- „ „ „ 35.—For Śanepuha° read Śunaipuha°.
- „ „ Text, l. 1. —Remove the unnecessary extra bracket after नमः( ) and insert a hyphen at the end of the line.
- „ „ „ 2.—For वृ read वृ.
- „ 113 „ 3.—For खे read खे and cancel foot-note.
- „ „ „ 6.—For 'मंशुधि' read 'मंशुधि'.
- „ „ „ 8.—For 'यद' read 'यद'.
- „ „ „ 14.—For 'हारिहरि' read 'हारी हरि'.
- „ „ „ 23.—For 'जन्म त' read 'जन्मत'.
- „ „ f. n. 9.—For अस्मान read अस्मानं.
- „ 114, Text l. 29. —For मृक' read मृक' and add in a footnote “ [ र' is the letter ga as generally transcribed in Nāgarī,—Ed.]”
- „ „ „ „ 31.—For 'हये read 'हये and correct into 'हये.
- „ „ „ „ 34.—For मासि read नासि and correct into मासि.
- „ „ „ „ 36.—Insert after '[ज्ये]' the letter 'द' and correct '[राज्ये]द' into 'रा[ज्ये]थ.
- „ „ „ „ 37.—Carry the footnote number 14 to 'मो of the preceding word.
- „ „ „ „ —For 'तिरुनलू' read 'तिरुनलु' and correct into 'तिरुनलु.
- „ „ „ „ 38.—Correct in a foot-note 'नलूरपि into 'नलूरपि. Insert space after उत्तरे and for 'कन्या° read 'कन्य'.
- „ „ „ „ 39.—Insert “ [ || 23\* ] ” after 'धे and add a foot-note “ read वलाभिधे [वलाभिधे]. [This word which occurs in connection with Rājagambhira and Rājārāja, both in lines 36 and 38 f, has perhaps to be understood in the sense of the Tamil वल्लाडु, a territorial subdivision, as suggested also by its use below, in ll. 52 and 56 f.—Ed.]”
- „ „ „ „ —Insert as a foot-note on प्रहजपदे:—“[प्रहजपदे perhaps stands for प्राहजपदे which is perhaps a Sanskritised form of Maḷanāḍu.—Ed.]”
- „ „ „ „ —Correct सुनेपुहलुखी into सुनेपुहलुखी in a foot-note.
- „ „ „ „ —Insert after उमी “ [ 1\* ].”
- „ „ „ „ 40.—Read श्रीरंगराजशपरि as one word.
- „ „ „ „ 41.—After “ [ 1 ” insert [ 24\* ].
- „ „ „ „ —For स्वनि श्री read स्व श्री and correct the same into स्वनि श्री [ || 1\* ].

Page 114, Text l. 42.—Insert a foot-note on सुधः—“Read युद्ध”.

” ” ” ” 44.—For नारायण<sup>०</sup> read नारण<sup>०</sup>.

” ” ” ” 46.—For परि<sup>०</sup> read हरि<sup>०</sup> and insert spaces after ष and ने

” ” ” ” —For वगमाल<sup>०</sup> read वनमाल.

” ” ” ” 47.—For तिरु<sup>०</sup> read तिरि<sup>०</sup> and correct into तिरु. The letters दके को ought to be in [ ].

” ” f. n. 9.—Add at the end : “ [ Perhaps प्रकष्याद्दे was meant—Ed.] ”

” ” ” 13.—For मिधकावेर्या<sup>०</sup> read मिधे कावेर्या<sup>०</sup>.

” ” ” 14.—Cancel the hyphen at the end and insert [ | 22\*]

” ” ” 15.—For सत्यकन्याया read सन्नकन्याया.

” ” ” 16 & 17.—[Perhaps metrical considerations would require some corrections like श्रीरंगराट्सपर्यायं नारायणाभिधानतः —Ed.]

” ” ” 25.—For चान्दक<sup>०</sup> read चोदके.

” 115, Text l. 51.—For सुध read सुध.

” ” ” ” 53.—Correct in a foot-note, ‘हीमलि<sup>०</sup>’ into ‘हीमलि<sup>०</sup>’.

” ” ” ” 54.—Correct तिरुनालुर into तिरुनालूर.

” ” ” ” 55.—For नलू read नल and correct into नल<sup>०</sup>.

” ” ” ” 56.—In १४०३ put the nought in square brackets with an asterisk.

” ” ” ” —For °कर read °करे.

” ” ” ” —For ‘वळ’ read ‘वम’.

” ” ” ” 57.—For सुने<sup>०</sup> read सुने<sup>०</sup> and correct in a foot-note °नलुर into °नलूर.

” ” ” ” 58.—For उभय(:) read उभयं.

” ” ” ” 59.—Insert a space after कंड and add in a foot-note “ [कंड perhaps stands for कण्ड i. e., संकण्ड —Ed.] ”

” ” ” ” 64.—For ओ<sup>०</sup> read ओ and correct the whole into ओलूक्कीर्याङ्ग in a foot-note.

” ” ” ” 67.—Carry foot-note No. 15 to the end of एनुळता.

” ” ” ” 71.—Insert space after the first letter in the line and correct in a foot-note माच<sup>०</sup> into चाच<sup>०</sup>.

” ” f. n. 4.—Omit से at the end of the correction.

” ” ” 6.—Change the foot-note thus: “ Read सीरनेचंडपेरुमानलूर as in the Sanskrit portion in l. 37.”

” ” ” 9.—For चान्दके read चोदके.

” ” ” 14.—For पच read पचे.

” ” ” 15.—For होमवणि read एनुळथा.

” 116, Text l. 75.—For 22 read 25 and for स्वदत्ता read स्वादत्ता and correct into स्वदत्ता

” ” ” ” 76.—For षट्तिवर्ष<sup>०</sup> read षट्तिवर्ष<sup>०</sup> and correct into षट्ति वर्ष<sup>०</sup>.

” ” ” ” 77.—For 23 read 26.

” ” ” ” 79.—For 24 read 27.

” ” ” ” 80.—For दत्ता<sup>०</sup> read दत्ता and correct into दत्ता<sup>०</sup>.

” ” ” ” 82.—For °मा<sup>०</sup> read °मा<sup>०</sup>.

” ” ” ” —For 26 read 29.

” ” ” ” 83.—For °विळ<sup>०</sup> read °विळ<sup>०</sup> and correct into °विळ<sup>०</sup>.

” ” Vv. 6-7.—For kaustabha read kaustubha.

” ” ” 10-12, last sentence.—For °Lakshmi read -Śrī and for as read tho.

- Page 116, line 3 from the bottom.—For *Śēra*<sup>o</sup> read *Sēra*<sup>o</sup>.
- „ „ „ „ „ „ —For *Śune*<sup>o</sup> read *Sunai*<sup>o</sup>.
- „ „ last line.—For *Monday* read *Sunday*.
- „ „ f. n. 3.—Insert ‘and’ before *इचाणि*.
- „ „ „ 6.—Insert *चा* before *हि*.
- „ „ „ 7.—Insert *दत्ताप* before *हारण*.
- „ „ „ 8.—Cancel *पहारण*.
- „ 117, l. 3.—For *Sēraṇaibanda*<sup>o</sup> read *Sēraṇaibanda*<sup>o</sup>.
- „ „ „ 4.—For *Triśirāppalli* read *Tiruchchirāpalli*.
- „ „ „ 6.—Insert *Sahyakanyā* before *Kāvēri* and put the latter in round brackets and add  
“in the *Prāvriddjanapada* i.e., in the *Maḷa-nāḍa* district”.
- „ „ para. 2, l. 3.—Insert at the end of the line “sacred food, of one”.
- „ „ „ „ 4.—For *lamps* read *lamp* and insert ‘one’ after the comma.
- „ „ „ „ 4.—For *garlands* read *garland*.
- „ „ „ „ 5.—For *Nārāyaṇa*<sup>o</sup> read *Nārāṇa*<sup>o</sup>.
- „ „ „ „ 5.—Insert after *Pāṇḍamaṅgalam* “with its hamlets.”
- „ „ „ „ 6.—For *Sune*<sup>o</sup> read *Sunai*<sup>o</sup>.
- „ „ „ „ 11.—For *Chirichrapalli* read *Tiruchchirāpalli*.
- „ „ „ „ 11.—For *Sune*<sup>o</sup> read *Sunai*<sup>o</sup>.
- „ „ „ „ 12.—For *Mēlamuḡi* read *Mēlemuri*.
- „ „ „ „ 12.—*Maḷa* read *Maḷa*.
- „ „ „ „ 17.—Cancel *tarikkaḍamai* at the end of the line.
- „ „ „ „ 18.—For *olukunipāṭṭam*, read *olukkunirpāṭṭam*.
- „ „ „ „ 18.—For *verses 22-26* read *verses 25-29*.
- „ 118, text lls. 5 & 6.—I would add a hyphen at the end of l. 5 and take *mahōḍuḡa* —  
*mahādharaēndra* as one word, thus altering the sense. The chief who is  
described was a Sun on the Lord of mountains, i.e., the great eminence of  
the Kadaṇba family.—Ed.
- „ 130, l. 40, for *XIV* read *XVI*.
- „ 150, coll. 6-7 for *Śōchana* read *Śōbhana*.
- „ 189, „ 29, for *nāme* read *namo*.
- „ 191, f. n. 3, for the letter *वृ* after *य* (?) read *वृ* after *यृ*.
- „ „ „ 12, insert length after “*अ*”.
- „ 193, l. 22, for *Tōramāna* read *Tōramāṇa*.
- „ 194, para. 5, l. 4, for *Karuṇāṭa* read *Karṇāṭa*.
- „ 196, „ 2, „ 13, for *Śiddhaladēvi* read *Śiddhaladēvī*.
- „ „ „ 3, „ 2, for *Kārttiga* read *Kārttika*.
- „ 197, „ 1, „ 2, for *Hastināvatī* read *Hastināvatī*.
- „ „ „ 3, „ 1, for *Durga-Bhaṭṭa* read *Durgā-Bhaṭṭa*.
- „ „ f. n. 4, for *६* read *६*.

Page 198, text l. 12, for सगम. read संगमः.

- „ 200, f. n. 8 for शत्रु; read शत्रु; for see above, note 1 read see above, note 7.
- „ 203, trans. of v. 9. for Udaiya- read Udaya-
- „ 204. l. 8, for kère read kere.
- „ „ l. 21, delete who received.
- „ 291, 4th line from the bottom, insert the word “after” after “and” in brackets.
- „ 292, l. 5, for kkoḷṭiya read kkoḷṭiya.
- „ 293, l. 27, omit n of Kaḷabhran.
- „ „ f. n. 4, last line, for Śadaiyaṇ read Śadaiyaṇ.
- „ 294, l. 35, insert after orator: “thus making it clear that Mangalarāja Madhurātara is identical with Madavikalan Māraṅgāri mentioned in the previous paragraph”.
- „ „ l. 38, insert after certain: “Śuttakōśari-pPerumbaṇaikkāraṇ. The document was signed by”; and after Perumbaṇaikkāraṇ “who seems to be identical with the engraver Śuttakōśari-pPerumbaṇaikkāraṇ”
- „ 295, l. 10, for Kaḍuṅgōṇ read Kaḍuṅgōṇ.
- „ „ l. 22, for Madurātara read Mudhurātara.
- „ „ l. 27, for grove read drove.
- „ „ f. n., for *Epigraphia Indica* read *S. I. I., Vol. III, Pt. IV.*
- „ 296, l. 2, for inscriptions read inscription.
- „ 297, l. 29, for Maḷuva read Muḷava.
- „ „ l. 33, for Kuṛumaḍai read Kuṛumaḍai.
- „ „ f. n. 3, for °-Vaḷanāḍu read °-vaḷanāḍu.
- „ 308, l. 15, insert “(?)” after Kuṛumbunāḍu.
- „ „ l. 36, for Kuḷandevaṇ read Kuḷandaivaṇ.
- „ 309, l. 6, for race read people and omit °ttavar of Karavandapurattavar.
- „ „ trans. of v. 19, remove the brackets of (learned) and use roman type.
- „ „ trans. of l. 152, for °-pPerumbāṇaikkāraṇ read °-pPerumbaṇaikkāraṇ.
- „ „ f. n. 1, for Pāṇḍya read Pāṇḍya.
- „ 311, l. 11, omit ‘made through an ambassador,’
- „ „ l. 17, for Rajagrīha read Rājagrīha.
- „ „ para. 2, 4th line from end, for Kalāsan read Kalasan.
- „ 312, l. 11, from end, for Prambanum read Prambanan.
- „ 313, l. 6, for extending read governing.
- „ „ l. 6, from bottom, for a dūtaka or ambassador read dūtas or ambassadors.
- „ „ f. n. 5, for Sailēndras read Śailēndras.
- „ 314, l. 7, for Kalāsan read Kalasan.
- „ 315, l. 14, for Kuṇḍinga read Kuṇḍiṅga.
- „ 317, l. 26, insert -naya after Pilipikā.
- „ 317, f. n. 6, after ‘document.’ at the end, add “That Nagara by itself was used as a synonym of Kusumapura or Pāṭaliputra is evidenced by the *Dharmavivaraṇa* of Iśvaradatta (pp. 3 f.) published in the *Chaturbhāṇī* in 1922 by Mr. M. Ramakrishna Kavi, M.A., Teacher’s College, Rajahmundry.

Page 320, text l. 24, for °समावासि° read °समावासित°.

„ 321, f. n. 2, for *uparik*, read *uparika*.

„ 323, text l. 57, for °तीर्णर्ग° read तीर्णैर्ग°; for शनर्क° one should expect शनर्क; or the poet might have used शनर्क as a derivative of शन treating it as a stem like नौचर्क from नौच; and for °१° read °१°.

„ 324, f. n. 1, for *Sakti* read *Śakti* (twice).

„ 325 l. 9, for *-mahishyadhikṛita* read *-mahishyadhikṛita*.

„ „ l. 13, for *Brahmanōttaras*, read *Brāhmanōttaras*.

„ „ l. 14, for *Chāṇḍālas* read *Chañḍālas*.

„ 328, l. 18, for *-Hiranyagarbha-* read *-Hiranyagarbha-*.

„ „ l. 28 beginning, for *gf* read *of*.

„ 335, l. 13, for *Guddādi-* read *Guddādi*.



# EPIGRAPHIA INDICA

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## VOLUME XVII

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### No. 1.—GUDIMALLAM PLATES OF THE BANA KING VIKRAMADITYA II.

By PROFESSOR E. HULTZSCH, PH.D.; HALLE (SAALE).

These plates were found at **Gudimallam** in the **Kālahasti** Zamīndārī, and were forwarded to Rao Bahadur H. Krishna Sastri by Mr. K. Raghaviah of Kālahasti. They have been acquired for the Government Central Museum, Madras.

The **copper-plates** are **five** in number and have nine faces of writing, the outer side of the first plate being left blank. The plates are not raised into rims for the protection of the writing, which is, however, in good preservation. They measure  $7\frac{1}{4}$ " in length and  $3\frac{3}{4}$ " in breadth, and are strung on a copper ring, which measures about  $2\frac{3}{4}$ " in diameter, and the two ends of which are fixed in a circular seal. The hole through which the ring is passed was enlarged after the inscription had been already engraved. This led to the total or partial destruction of some letters, a few of which were subsequently engraved a second time below the ring-hole. The **seal** bears, in relief, the figure of a bull couchant, facing the proper right, and above it what looks like a lamp-stand and a crescent. The weight of the plates with ring and seal is 133 *tōlās*.

The **alphabet** is old Grantha (ll. 1-53) and old Tamiḻ (l. 53 f.). In the Grantha portion the superscribed *i* is not always distinguished from *i*, nor the subscribed form of *ri* from that of *r*. Final forms of *m* occur in lines 3, 7, 35, 48, 49, 53. In *-dhrik* (l. 30), *chēt* (l. 37), and *°vān* (ll. 26, 29, 47) the Virāma is expressed by a small dash at the right of the final consonant.

The Grantha portion consists of **Sanskrit** prose (ll. 1, 14, 33, 37-47, 51-53) and of 22 verses in the Anuṣṭubh and Āryā metres. Both the language and the metre of some of the Āryā verses are incorrect. In the footnotes on the text I have suggested a few possible emendations, but am unable to furnish a fully satisfactory text and translation of the eight opening verses, which are addressed to Śiva. The remainder of the inscription is quite intelligible, but the wording of it is not always correct. The compounds *-nām-ākhyā* (l. 23), *-ākhyā-nāmaka* (l. 35), and *kidṛig-vidha* (l. 37) are tautological. In lines 37-39 the author violates the rules of composition by comparing words in the dative plural to nominatives singular; cf. *Sāhityadarpaṇa*, Translation, p. 301, j. In line 50 the neuter *yuga* is used as a masculine, and in line 53 the neuter *likhitam* forms the predicate of the feminine *prastutiḥ* (l. 52). The record ends with a short postscript in the **Tamiḻ** language.

As regards **orthography**, *au* is expressed by *ō* in *-sō* (l. 10) and *mōli* (l. 12). The group *ksh* is replaced throughout by *tsh*, *dm* by *tm* in *patma* (ll. 4, 37), *dh* by *th* in *narāthipa* (l. 24), and perhaps *ddh* by *tth* in lines 5, 10, 11. The lingual *ḷ* is used in *gaḷa* (l. 2). The



rules of Sandhi are neglected in *Nandivarmma iti* (l. 19), *nṛiparāt=bhuja-* and *prādāt-grāman-* (l. 34), *chēt* (l. 37), and *bhyaḥ* (ll. 39, 42 (twice), 52). In *-nīpuṇaḥsh=shadgunē* (l. 30) and in four other cases (ll. 38, 40, 41 (twice)) final Visarga is expressed both by its original form and by a sibilant. Consonants are doubled throughout after *r*, and before *y* and *r* in *-maddhyā* (l. 2), *-viddhyud-* (l. 3), *-viddrā(ddru)ma-* (l. 3), *-mātrās=* (l. 5), *Ruddrō* (l. 9), *Girittreṇa* (l. 33), and *pittrō* (l. 35), but not in *traividyā* (l. 41), *tsha(ksha)tra* (l. 23), *putrēṇa* (l. 32), *vēda-traya* (l. 39), and *vikrama* (passim). The superscribed *r* of double consonants is often omitted through carelessness.

After lengthy invocations of Śiva, which have already been noticed in the preceding remarks, the inscription introduces the demon king **Bali** (v. 9), who is stated to have been the son of Virūchana, and to have granted the earth at a sacrifice to Kṛishṇa (*i.e.* to Viṣṇu in his incarnation as a dwarf). One of Bali's descendants was king **Nandivarman** (v. 10 f.). His son was **Vijayāditya** (v. 12), his son **Malla-dēva** of the Bāṇa race (v. 13), his son **Jayamēru** (v. 14) *alias* **Vikramāditya** (v. 15), his son **Vijayāditya** (vv. 16, 20, and l. 44) *alias* **Prabhumēru** (vv. 17, 21), and his son **Vikramāditya** (v. 20 and l. 44) or **Vikramādityavarman** (v. 18).

According to verse 19 a king named **Nanda**<sup>1</sup> (who may be meant for the Nandivarman of verse 10 f.) had granted to Brāhmaṇas the village called **Viprapīṭha**. With the sanction of his father (v. 20 and l. 45) Vijayāditya's son Vikramāditya granted protection (*rakṣā*), *i.e.* a confirmation of the former grant, to the Brāhmaṇas of this village (l. 45), because he had obtained a boon from the god of the **Paraśurāmēśvara** temple (l. 43). In verse 21 f. the donor, Prabhumēru's son, requests future kings to protect his grant. Lines 50-53 record the names of the composer and of the writer of this eulogy (*praśasti*). A postscript in Tamil states that the revenue assessment (*puram*) of the village amounted to 500 *kaḍi* of paddy and 10 (*kaḷaṇju* of) gold (l. 53 f.).

Before discussing the historical information which is supplied by this inscription, I may state that **Viprapīṭha** (v. 19 and l. 45) is clearly a Sanskrit equivalent of **Tiruvippirambēdu**, the ancient name of **Guḍimallam**,<sup>2</sup> where the temple of **Paraśurāmēśvara** (l. 43) exists to the present day.

When my late friend Venkayya wrote his learned article on five Bāṇa inscriptions at Guḍimallam, which was destined to remain his last contribution to the *Epigraphia Indica* (above, Vol. XI, pp. 222 ff.), no other genealogical inscription of the Bāṇa dynasty was available but the **Udayēndiram** plates published by Kielhorn (above, Vol. III, p. 74 ff.). From the new plates we now learn that the king **Prabhumēru** of the Udayēndiram plates had also the name **Vijayāditya**, and that his father, who is called **Bāṇavidyādhara** in the Udayēndiram plates, had the two additional names **Vikramāditya** and **Jayamēru**. These fresh facts may be used for locating in the genealogical tree a few Bāṇa kings who are referred to in other inscriptions. A *viragal* which was published by Mr. Rice<sup>3</sup> belongs to the reign of **Vikramāditya-Jayamēru alias** Bāṇavijyā(dyā)dhara, and mentions a military commander **Prabhumēru** who may be identified with his son and successor **Vijayāditya-Prabhumēru**. Inscriptions both of **Vikramāditya-Jayamēru alias** Bāṇavidyādhara and of **Vijayāditya-Prabhumēru** exist also

<sup>1</sup> An early Rāṣṭrakūṭa king Nandarāja is supposed to be mentioned in the Multāi plates of Śaka 631 (*Ind. Ant.*, Vol. XVIII, p. 234); but the actual reading of the plate (l. 9) seems to be नन्दराज. In the Tiwarkhēḍ plates of the same king (above, Vol. XI, p. 279) the reading is distinctly नन्दराज. The genealogy of this Nandarāja is the same as in the Multāi plates of Śaka 631, but the date of the Tiwarkhēḍ plates is Śaka 553, which would mean that Nandarāja reigned at least 78 years (!).

<sup>2</sup> See Venkayya's remarks, above, Vol. XI, p. 222.

<sup>3</sup> *Ind. Ant.*, Vol. X, p. 39, No. II, and *Ep. Carn.*, Vol. X, Śrinivāspur Tāluk, No. 6.

in the Puṅganūr Zamindārī of the North Arcot District.<sup>1</sup> One of Venkayya's Gudimallam inscriptions<sup>2</sup> contains a Śaka date—820—which must be assigned to the reign of Vijayāditya-Prabhumēru, because it calls the Bāṇa king Vijayāditya, to whose reign it belongs, the son of a queen of Bāṇavidyādhara, i.e. of Vikramāditya-Jayamēru. Another queen of Bāṇavidyādhara, named Kundavvai, was the daughter of Pratipati-Araiyaṛ, i.e. of the Gaṅga king Prithivipati I,<sup>3</sup> who was a contemporary of the Rāshtrakūṭa king Amoghavarsha I<sup>4</sup> and of the Pāṇḍya king Varaguṇa.<sup>5</sup> Two further inscriptions of Vijayāditya (Prabhumēru) furnish the Śaka dates 827 and 831.<sup>6</sup>

According to the Udayēndiram plates, Prabhumēru's great-grandson, Vikramāditya-Vijayabāhu, was a friend of Kṛishṇa-Rāja, who used to be identified with the Rāshtrakūṭa king Kṛishṇa II (about A.D. 900). This identification cannot be upheld, because we have now for Prabhumēru Śaka dates ranging about A.D. 900, but Vijayabāhu's friend Kṛishṇa-Rāja must have been the Rāshtrakūṭa king Kṛishṇa III (about A.D. 950), of whom we know from other sources that he made and held extensive conquests in the South. The Gaṅga prince Prithivipati II Hastimalla, who received the title *Bāṇādhirāja* from the Chōḷa king Parāntaka I,<sup>7</sup> and whose inscriptions are dated in the 9th and 15th years of the same king<sup>8</sup> (i.e. A.D. 915 and 921), would thus have been a temporary usurper and a predecessor of Vikramāditya-Vijayabāhu. He was the Chōḷa king's candidate for the Bāṇa throne, while the legitimate ruler Vijayabāhu was the *protégé* of the Rāshtrakūṭa invader. To facilitate reference, I subjoin a tabular statement of the two Bāṇa genealogies.

Gudimallam plates.	Udayēndiram plates.	REMARKS.
Nandivarman.	Jaya-Nandivarman.	
↓	↓	
Vijayāditya (I).	Vijayāditya (I).	
↓	↓	
Malla-dēva.	Malla-dēva.	
↓	↓	
Vikramāditya (I) Jayamēru.	Bāṇavidyādhara.	Son-in-law of the Gaṅga Prithivipati I, who was an adversary of the Pāṇḍya Varaguṇa and of the Rāshtrakūṭa Amoghavarsha I.
↓	↓	
Vijayāditya (II) Prabhumēru.	Prabhumēru.	Inscriptions dated in Śaka 820, 827, 831.
↓	↓	
Vikramāditya (II) (heir-apparent).	Vikramāditya (II).	
	Vijayāditya (III) Pugalvippavarganḍa.	
	↓	
	Vikramāditya (III) Vijayabāhu.	Friend of the Rāshtrakūṭa Kṛishṇa III.

<sup>1</sup> See above, Vol. XI, p. 235.

<sup>2</sup> *Ibid.*, pp. 227 f.

<sup>3</sup> In his Annual Report for 1908-09, p. 13, Mr. R. Narasimhaachar has suggested that the actual name of this chief may have been Diṇḍika.

<sup>4</sup> *South-Ind. Inscr.*, Vol. III, Nos. 47 and 48.

<sup>5</sup> See above, Vol. IX, p. 87.

<sup>6</sup> Above, Vol. XI, p. 228, and *Ep. Carn.*, Vol. X, Muḷbāgaḷ Tāluk, No. 229.

<sup>7</sup> Above, Vol. IV, p. 225, verses 5.

<sup>8</sup> *Ibid.*, p. 224, and *South-Ind. Inscr.*, Vol. II, p. 389.

TEXT.<sup>1</sup>*First Plate ; Second Side.*

- 1 Namaś=Śivāya svasti || Jayati sa sarvva-vyāpi yat-kṛita-pa-  
 2 riṇaddha-kandharā-maddhyō [1\*] gaḷa-bhūṣaṇ-āhi-<sup>2</sup>pratibimbam=iva su-  
 3 ra-dahana-visham || [1\*] Jayati hutāśana-viddyud-viddrā(ddru)ma-saṁghāta-ni-  
 4 bha-jatā-bhārah [1\*] yach-ebhirasi maṇi-jatā-[bh]ā-rakta-sarit=putma(dma)-māl=ś-  
 5 va || [2\*] Jayati praṇavapyātthō<sup>3</sup> lēkhā-māttiraś=śikhā-śaśi yasya [1\*] dṛi-  
 6 dha-nahana-khinna-vishadhara-van-ānala-dagdha iva latshyaḥ(kshyaḥ) || [3\*]

*Second Plate ; First Side.*

- 7 Jayaty-abdhara-saṁkāśa-kandharañ=ch=āhi-kuṇḍalam [1\*] lalāṭ-ētsha(ksha)ṇam=Ākāśasa-  
 8 r[i]n-mālā-dharam vapuḥ || [4\*] Jayati vṛish-ēśō dēvō lalāṭa-nayan-āgni-  
 9 niva(pa)tit-Ānamgaḥ [1\*] asura-pur-āri(ri) Ruddrō jugad-udaya-layaṁkarō bhīmaḥ || [5\*]  
 10 Jayati sa-nād-ātthō=sō<sup>4</sup> śakti-dvaya-<sup>5</sup>guṇ-ākarō vibhu-  
 11 ś-Śambhuḥ [1] saṁvṛita-mantr-ārth-ārthas=<sup>6</sup>śabd-ādi-guṇair=anupalabhyaḥ || [6\*]  
 12 Jayati jatā-dhara-mō(mau)lir=Mmandākinī-pūrita-<sup>7</sup>mahā-makuṭ-ēśaḥ [1\*] Śi(Gi)-  
 13 ritanay-ārppita-bhāgō guṇa . . rahitō<sup>8</sup> vibhu[r\*]=vvyāpiḥ(pi) || [7\*]

*Second Plate ; Second Side.*

- 14 Namaś-Śivāya svasti(sti) śri [1\*] Jayati sa Kām-āṁga-dahanō<sup>9</sup>  
 15 mastaka-nyasta-mugdb-ēnduḥ [1\*] k-ādī(di)-tṛiṇ-āntasy=ēśō<sup>10</sup> gupty-u-  
 16 tpatti-laya-hētuḥ [1] [8\*] Bali[r\*]=Vvairōchanō<sup>11</sup> nāma Dāna-  
 17 v-ēndrō mahā-balaḥ [1\*] prādāt=sa gām=makha-varō Kṛishṇāy=āmi-  
 18 ta-tējasēḥ<sup>12</sup> [1] [9\*] Tasya ānvayō samu[d]bhūtaḥ pṛithivi(vi)pāla-sa-  
 19 ttamaḥ [1\*] Nandivarman[ā] itī<sup>13</sup> khyātūḥ praśamsita-mahā-balaḥ || [10\*]

*Third Plate ; First Side.*

- 20 Jayati<sup>14</sup> sa Nandiva[r]mmā narapati-maṇi-makuṭa-li(li)dha-pāda-  
 21 yugaḥ [1] tēna nirākṛita-kalinā samprati rājanvati(tī) pṛithi-  
 22 vi[h]<sup>15</sup> || [11\*] Tasya sūnur mmahā-virō vėlā-paryyanta-dīpakah [1\*] Vi-  
 23 jayāditya-nām-ākhyō dharmma-taba(ksha)trabhṛitām varah || [12\*] Tasya-ābhava-  
 24 n-mahā-bāhur Mmalla-dēvō marāthi(dhi)paḥ [1\*] Bāṇa-varṁśasya tilaka-  
 25 s=samasta-vasudh-ādhipaḥ [1] [13\*] Tasya jajñō mahā-śūrō Ja-

<sup>1</sup> From two sets of ink-impressions supplied by Rao Bahadur H. Krishna Sastri.

<sup>2</sup> For the sake of the metre, a word like *bhōga* may have to be inserted after *-āhi*.

<sup>3</sup> Read perhaps *praṇavasy-ārddhō*.

<sup>4</sup> Read perhaps *ādā-rddhō* [or *rittho*?—F. W. T.] = *śau*.

<sup>5</sup> For the sake of the metre, *śakti-arddha* may have to be read. <sup>6</sup> Read perhaps *-ārddhas*.

<sup>7</sup> For the sake of the metre, *-pūrita* may have to be replaced by its synonym *-bhṛita* [and perhaps *makuṭ-ēśaḥ* is for *makuṭaḥ*. But the scansion seems too irregular in many places.—F. W. T.].

<sup>8</sup> Read perhaps *guṇa-rahitō* [or *guṇa-gaṇa*, since *guṇatva* is found only in *guṇas*?—F. W. T.].

<sup>9</sup> The metre is wrong here.

<sup>10</sup> For the sake of the metre, *yō* may have to be inserted here.

<sup>11</sup> The second half of the *ō* of *no* is very faintly seen.

<sup>12</sup> The correct Sandhi *varman=ēti* is precluded by the metre.

<sup>13</sup> Read *Vijayati* on account of the metre.

<sup>14</sup> Cancel the Visarga.

<sup>15</sup> Cancel the Visarga.

2 4 6  
 8 10 12  
 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100

ii h.

14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100

iii h.

26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100

8 10 12  
 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100

iii a.

20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100

iv a.

34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100

$i\tau' b.$ 

40 யந ஸ்வாமிநம: புகழ் புகழ் புகழ் புகழ்  
 புகழ் புகழ் புகழ் புகழ் புகழ் புகழ் புகழ் புகழ்  
 42 புகழ் புகழ் புகழ் புகழ் புகழ் புகழ் புகழ் புகழ்  
 புகழ் புகழ் புகழ் புகழ் புகழ் புகழ் புகழ் புகழ்  
 44 புகழ் புகழ் புகழ் புகழ் புகழ் புகழ் புகழ் புகழ்  
 புகழ் புகழ் புகழ் புகழ் புகழ் புகழ் புகழ் புகழ்  
 46 புகழ் புகழ் புகழ் புகழ் புகழ் புகழ் புகழ் புகழ்

*v! a.*

48  
 50  
 52

*i' b.*

54

श्री गुरुभ्यो नमः

54

*Third Plate; Second Side.*

- 26 **yamēruḥ** pratāpavān [1\*] samasta-ripu-chakrāṇām-bhōtt-āchintya-pa-  
 27 **rākramah** || [14\*] Samasta-dharaṇipāla-kirīṭ-āṅkita-śāsanah [1\*] sa jīyāt-shi(kshi)-  
 28 tipāl-ēndrō **Vikramāditya**-bhūpatiḥ || [15\*] **Vikramāditya**-bhūpasya sū-  
 29 [n]uḥ parama-vīryavān [1\*] dōr-ddaṇḍ-ōddhṛita-sṛisṭ-ārīr=<sup>1</sup>**Vijayāditya**-  
 30 nāma-dhṛikḥ<sup>2</sup> || [16\*] Pañchāṅga-mantra-nipuṇaḥsh-<sup>3</sup>śhaḍguṇō sakta-chinta-  
 31 kaḥ [1\*] nay-ōpayukta-sachivaḥ **Prabhumērur**-mmahā-yaśāḥ || [17\*]  
 32 Tasya putrēṇa mahatā **Vikramādityava**[r]mmaṇā [1\*] prasādita-

*Fourth Plate; First Side.*

- 33 Girittreṇa dhvasta-duḥkhēna dhimatā || 18\*] Api cha<sup>4</sup> ||\*] **Nandō** nāma mahā-sa-  
 34 tvō(ttvō) nṛipa-rāṭ=<sup>5</sup>bhuja-vikramah [1\*] prādāt=<sup>6</sup>grāman=dvij-ēndrāṇām **Vi**-  
 35 **prapīṭh**-ākhyā-nāmakamḥ<sup>6</sup> || [19\*] Tasya prādāt=sa ratshā(kshā)n-ta pīttrō vijñā-  
 \* 36 [pya] saḥ<sup>7</sup> prabhuh [1\*] **Vijayāditya**-sūnus=sō<sup>8</sup> **Vikramādityaśrātaḥ**<sup>9</sup> || 20\*]  
 37 **Ki**(kī)ḍṛig-vidhēbhyō ratshā(kshā)n-dattavān=iti chōt(d-) Brahm-ōva patm(dm)-āspa-  
 38 dēbhyō Nārāyaṇa iva bhṛita-sach-chakrēbhyahś=<sup>10</sup>Śiva iva sita-bhūti-  
 39 priyēbhyu[h\*] Kumāra iva Śiv-āṅk-āśrayēbhyah(bhyō) vēda-tray-ādhyā-

*Fourth Plate; Second Side.*

- 40 yana-mākharā-mukhēbhyahś=<sup>10</sup>sushṭhu-kṛit-ānushṭhāna-Paramēshṭhi-  
 41 charitēbhyahś-<sup>10</sup>traividya-vṛiddhēbhyahś=<sup>10</sup>samasta-śāstra-pā-  
 42 ragēbhyah(bhyō) brahmādēy-ānusantānēbhyah(bhyō) dharmma-vi[d\*]bhyō  
 43 [v]ichehchinna-sōmapīṭhēbhyah ||\*] **Paraśurāmēśvara**-bhaṭṭāra-  
 44 ka-var-āvāpti-nimittād=**Vijayāditya**-sūnu[r\*]=**Vvikramāditya**-  
 45 s-ava-pitu[r\*]-nniyōgād=**Viprapīṭh**-ākhyā-nivāsinān=dvi-  
 46 j-ēndrāṇam samasta-[pa]rihāra-samanvitām ratshā(kshā)n=datta-

*Fifth Plate; First Side.*

- 47 vān || Sa[r\*]vvāms=tu pṛithivīpālān=bhāvīnāḥ prā[r\*]tthaya-  
 48 ty-ayam [1\*] **Prabhumērōs**=suta[h\*] śrīmān=ari-marddama-karma-kṛita<sup>11</sup> || [21\*]  
 49 Yē tu ratshā(kshā)m=imām=pānti vipr-ēndrēshu sama[r\*]ppitām [1\*] tō-  
 50 [sh]ām=pāda-yugā mūnni(rdhni)<sup>12</sup> tishṭhantu mama sa[r\*]vvadā || [22\*] Śiva-bhaṭṭā-  
 51 raka-sūnōś=Śivatamasy-ēyam kṛitiḥ ||\*] Svasti gō-brā-  
 52 hmaṇēbhyah(bhyō) namaḥ || Iyam=prasasti[h] Parahit-āchā-  
 53 riṇā likhitam[h](tā) || A[yu]nuru=<sup>13</sup>kkāḍi nellu[m] pat-

<sup>1</sup> Read *-driṭ-ārīr*. [Read *ṛīṭ*?—F. W. T.]<sup>2</sup> Cancel the Visarga.<sup>3</sup> These two words are entered below the line, and the place at which they have to be inserted is marked by a cross or caret (*kākapada*); cf. Sir Aurel Stein's Translation of the *Rājatarāṅgī*, IV, 117 and note.<sup>4</sup> Read *-rāḍ*.<sup>5</sup> Read *prādāt*.<sup>6</sup> Cancel the Visarga.<sup>7</sup> The syllable *sa* is entered below the line; read perhaps *sat-prabhuh*.<sup>8</sup> Read perhaps *sūnur=gyō*.<sup>9</sup> Read perhaps *itya-citrutah*.<sup>10</sup> Cancel the Visarga.<sup>11</sup> Read *-kṛit*.<sup>12</sup> After this word the syllable *ka* is written below the line.<sup>13</sup> Read *ainnūgu*.

*Fifth Plate ; Second Side.*

54 tu poṇṇum idiṇ puravu [||\*]

**TRANSLATION.**

(Line 1.) Obeisance to Śiva ! Hail !

[Verses 1-7 are addressed to Śiva.]

(Line 14.) Obeisance to Śiva ! Hail ! Prosperity !

[Verse 8 is again addressed to Śiva.]

(Verse 9.) (There was) a powerful lord of demons (*Dānava*), **Bali** by name, the son of **Virūchana**. He presented at an excellent sacrifice the earth to **Kṛishṇa** of immeasurable lustre.<sup>1</sup>

(Verse 10.) In his lineage was born the best of kings, called **Nandivarman**, whose great power was praised.

(Verse 11.) Victorious is that **Nandivarman**, whose pair of feet was kissed by the diadems, (set) with jewels, of princes. Through him, who drove away (the sins of) the **Kali** (age), the earth is now (!) provided with a just king.

(Verse 12.) His son (was) a great hero, illuminating (the earth) as far as the coast (of the ocean), called **Vijayāditya** by name, the best of just rulers.

(Verse 13.) His (son) was the long-armed king **Malla-dēva**, the ornament of the **Bāṇa** race (and) the lord of the whole earth.

(Verse 14.) To him was born the powerful great hero **Jayamēru**, the breaker of the circle of all enemies, (and) whose valour was inconceivable.

(Verse 15.) Let that king **Vikramāditya** be victorious, the lord of princes, whose orders were marked (i.e. bowed to) by the diadems of all rulers of the earth !

(Verse 16.) King **Vikramāditya** had a very brave son, who bore the name **Vijayāditya**, (and) who uprooted proud enemies by (his) strong arm.

(Verse 17.) The renowned **Prabhumēru** knew the spell of five members<sup>2</sup> ; his thoughts were occupied with the six measures of politics ; (and) his ministers were employed with polity.

(Verse 18.) By his great wise son **Vikramādityavarman**, who propitiated **Girītra** (Śiva), (and) who removed distress, (this grant was made).

(Line 33.) Moreover :—

(Verse 19.) The noble ruler of princes, **Nanda** by name, whose arms were powerful, (had) presented to chiefs of **Brāhmaṇas** the village called **Viprapīṭha** by name.

(Verse 20.) But **Vijayāditya's** son, that virtuous lord who was celebrated (by the name of) **Vikramāditya**, granted a confirmation (of the former grant) to this (village), after having submitted (this matter) to (his) father.

(Line 37.) If (you ask) to what kind (of people) he granted the confirmation :—to those who were abodes of prosperity (*padmā*), as **Brahmā** dwells on a lotus-flower (*padma*) ; who supported a circle (*chakra*) of virtuous men, as **Nārāyaṇa** (**Vishṇu**) holds an excellent discus (*chakra*) ; who were beloved by bright welfare (*bhātī*), as **Śiva** is fond of white ashes (*bhūtī*) ; who resided near (the temple of) **Śiva**, as **Kumāra** rests on **Śiva's** lap ; whose mouths resounded with the recital of the three **Vēdas** ; who practised in a suitable manner the conduct of

<sup>1</sup> Cf. verso 3 of the Udayēndiram plates, above, Vol. III, p. 78.

<sup>2</sup> Viz. the five syllables *namaḥ-Śivāya*, "obeisance to Śiva !" Cf. ll. 1, 14. [*Pañchāṅga-mantra* is 'counsel (consisting) of five subdivisions' ; see *Monier Williams s.v. aṅga*.—H. K. S.]

Paramēśhthin (Brahmā); who had advanced in (the study of) the three Vēdas; who had mastered all sciences; who (possessed) a series of gifts to Brāhmaṇas; who knew the (sacred) law; (and) whose draughts of Sōma were uninterrupted.

(Line 43.) Because he had obtained a boon from the god Paraśurāmēśvara, Vijayāditya's son Vikramāditya granted, at the direction of his father, the confirmation, accompanied by all exemptions (*parihāra*), to the chiefs of Brāhmaṇas residing in (the village) called Viprapīṭha.

(Verse 21.) But the destroyer of enemies, that glorious son of Prabhumēru, requests all future rulers of the earth:—

(Verse 22.) "Let there rest for ever on my head the pairs of feet of those (kings) who protect this confirmation granted to chiefs of Brāhmaṇas!"

(Line 50.) This is the composition of Śivatama, son of Śiva-bhaṭṭāraka. Hail! To cows and Brāhmaṇas obeisance! This eulogy (*praśasti*) was written by Parahit-āchāri.<sup>1</sup>

(Line 53.) The revenue assessment<sup>2</sup> of this (village amounted to) five hundred *kāḍṛ*<sup>3</sup> (of) paddy and ten (*kaḷaṅḡu* of) gold.

## No. 2.—TUMBAGI INSCRIPTION OF THE REIGN OF SATYASRAYA: SAKA 926.

BY LIONEL D. BARNETT.

**Tumbagi**, or, as the name was anciently spelt, **Tumbige**, is a village lying in lat. 16° 34' and long. 76° 20', in the Muddebihāḷ *tāluka* of Bijāpūr District, and formerly was included in the Pagalattī Three-hundred. The name is given as "Toombgee" on the Indian Atlas sheet 57 and as "Tumbgi" on the Bombay Survey sheet 350. It contains a monastery known as "Polayya's Maṭh," at the well of which there is (or was) a stone inscribed with the present record. A bad copy was made by Elliot's pandit, and appears in Vol. I, fol. 17a. of the Elliot Collection (Royal Asiatic Society's copy). I now edit the text from good ink-impressions prepared for the late Dr. Fleet, which are now in the British Museum.<sup>4</sup>—The stone is a long narrow block, with an upper compartment in front containing **sculptures**, viz. in the centre a *liṅga* on a stand, with an upright figure of a votary facing it on the proper right of it, and still further to the right a cow with sucking calf. Underneath this is the inscribed area, which seems to include three faces of the slab. The first face, containing ll. 1-17, is about 1 ft. 1 in. wide and 3 ft. high; the second, containing ll. 18-40, is about 10 in. wide and 3 ft. 7 in. high; the third, containing ll. 41—end, is about 3 ft. 8½ in. high and 6 in. wide, except at the bottom, where it runs out towards the right to a width of 10¾ in., enclosing the last two lines.—The **character** is fair Kanarese, somewhat inclined to angularity, with letters varying from 1 in. to 1½ in. in height. Its whole tendency is towards the later type, rather than the archaic. The cursive *v* is found only in the ligature *veva* (ll. 51, 58).—The **language** is Old Kanarese, except for the concluding Sanskrit verses. We may note the sporadic change of *m* to *v* in *-āchchhādanavāṇ* (l. 32) and *mahājanavuv* (ll. 43-4), and the conditionals *ādaḍe* (l. 37) and *appaḍe* (l. 45), which all shew a tendency towards the medieval dialect.

The **record** opens (ll. 1-8) by referring itself to the reign of **Akaḷaṅka** *acharita* **Iriya-bedāṅga Satyāśraya** (*Dynast. Kanar. Distr.*, p. 432), while his officer **Seṭṭi Brahmayya** was administering Tumbagi (ll. 8-15), and registers gifts to local religious foundations by the latter and a lady named **Āyachakabbe**, with rules for their management (ll. 15 ff.).

<sup>1</sup> *āchāri*, 'an artisan,' is a Tamil form of *āchārya*.

<sup>2</sup> *Purava* occurs also in *South-Ind. Inscr.*, Vol. II, p. 386, text line 99, and above, Vol. IV, p. 224, text line 19. For its meaning see the Madras Epigraphical Report for 1920, p. 96.

<sup>3</sup> The same measure is mentioned in *South-Ind. Inscr.*, Vol. I, pp. 117, 140.

<sup>4</sup> A notice of the inscription has been given by Dr. Fleet above, Vol. XII, p. 306.



The **date** is specified on ll. 11-15 as Śaka 926 (expired), Krōdhi; Āshāḍha *amāvāsya*; an eclipse of the sun. This is quite regular. The Southern cycle is used, and according to the *Sūrya-siddhānta* (true system) the *tithi* quoted was connected with **Thursday, 20 July, A.D. 1004**, ending 3 h. 33 m. after mean sunrise (for Ujjain). On that day there was an eclipse of the sun at 3 h. 18 m. after sunrise by Lankā time. Mr. R. Sewell, who has kindly examined this date at my request, remarks that by the true system of the *Ārya-siddhānta* the result is the same, but that by the mean system of the *Ārya-siddhānta* the *tithi* was connected with the previous Wednesday, 19 July.

The **place-names** mentioned are: the **Pagalatṭi Three-hundred** (l. 10); the **Tumbigo Agrahāra** (l. 11); and **Kalkere** (ll. 23-4). On Pagalatṭi I may refer to the remarks of Dr. Fleet above, Vol. XII, p. 306 ff., where he identifies it with the district variously called Hagaritige, Hagarittage, or Hagaratage and connected with the village formerly designated Hagaritige, Hagulittage, or Hagarittage, and now known as Hagarattagi, Hagaritige, Hagarittige, or Hagarittigi, in the Shōrāpūr *tāluka* of Gulbarga District in the Nizam's Territories. Kalkere cannot be identified with certainty; there are several places of the name. <sup>2</sup>

#### TEXT.<sup>1</sup>

- 1 Svasti samasta-bhuvan-āśra-
- 2 ya Śri-Pri(pri)thvi-vallabha
- 3 mahārājādhirāja para-
- 4 mēśvara paramabhaṭṭārakaṁ
- 5 Satyāśraya-kuḷa-tiḷaka-
- 6 n-Akaḷamkacharitan-Iṇiva-
- 7 beḍaṁgaṁ śrīmat Satyā-
- 8 śraya-dēvara pāda-padm-ō-
- 9 pajivi Seṭṭi Brahmayyaṁ
- 10 Pagalatṭi 300raṇa baḷi-
- 11 ya Tumbige-agrahāra Sa-
- 12 kha-varisha<sup>2</sup> 926neya Krō-
- 13 dhi-samvatsarad=Āshāḍa(ḍha)d=amā-
- 14 vāsyeya[in]duve sūryya-gra[ha\*]-
- 15 ṇadandu Seṭṭi Brahmayyaṁ Bra-
- 16 h[m]ōśva(śva)ra-dēvarggo biṭṭa ke-
- 17 y=matta 200 ada \* \* \*
- 18 parekāra-sūle-
- 19 yargge koṭṭa key=ma-
- 20 tta 30 maṭa(ṭha)kke koṭṭa ke-
- 21 y=matta 50 dōvālaya-
- 22 nimittam koṭṭa ke-
- 23 y=matta 120 [\*] Kalke-
- 24 reya Gonnayyana
- 25 magal-Āyohakabbe ta-
- 26 mma mānyad=olage ma-
- 27 ṭa(ṭha)kke koṭṭa key=matta
- 28 50 antu maṭa(ṭha)kke ma-
- 29 tta 100 [\*] Inn=ṣṭhiya pha-
- 30 laḍalu brahmacharyya-

<sup>1</sup> From the ink-impressions.

<sup>2</sup> Read Śaka-varsha.

- 31 m=ulla tapaśviya 5.  
 32 rgge<sup>1</sup> aśan-āchchhādanavam  
 33 naḍeyisuvar=alli-  
 34 y=orvvar=pradhānar=appa-  
 35 vargge uttamāgra[m\*] na-  
 36 ḍeyisuva[r\*] brahmacha-  
 37 ryy-ādi-lōpam-ādaḍe  
 38 poḍa-vaḍisuvar=[u]-  
 39 ttamar=appar=amt=appa-  
 40 r=ī sthitiyo!-ī dharmmamam  
 41 pratipāḷisuva-  
 42 r=ūr-oḍeyarum  
 43 mahājanavu-  
 44 v=idan=upēkshi-  
 45 sidar=appaḍe gu-  
 46 ṇa-dōsham=ava-  
 47 [ra]n-ōṅgum ||  
 48 ūr-oḍeyara-  
 49 l=akke mahāja-  
 50 nadol=akke ā-  
 51 van-orvvan=ī sthi-  
 52 tiyo!=allade  
 53 perat=ondu sthi-  
 54 tiyo! kiḍi-  
 55 suv-avam śvāna-  
 56 gā(ga)rdabha-chāṇḍālam  
 57 same(ma)ya-bāhiram [||\*]  
 58 Sarvvathā pāḷaniya-  
 59 m tta(tu) tad-dōśas=tais=tu  
 60 bhūmipai[h\*] [i\*] ya-  
 61 sya yasya ya-  
 62 dā bhūmi[s\*]=tasya  
 63 tasya tadā phalam [||] [1\*]  
 64 Sva-dattām para-da-  
 65 [t]tā[m v]ā yō ha-  
 66 rēta vasuṇḍhar[ām] [i\*]  
 67 shashṭhim varisha<sup>2</sup>.sa-  
 68 hasrāpi viśṭhā-  
 69 [y]ām jāyatō krimiḥ [||\* 2\*]  
 70 [Ma]ṅgaḷa mahā-śrī ||

## TRANSLATION.

(Lines 1-9) **Seṭṭi Brahmaṃya**, who finds sustenance at the lotus-feet of—hail!—the refuge of the whole world, darling of Fortune and Earth, great Emperor, supreme Lord supreme Master, ornament of **Satyāśraya's** race, **Akaṣaṅkacharita** **Iṇvabedaṅga** **Satyāśraya-dēva** :—

(Lines 10-23) (*While governing*) the **Agrahāra** of **Tumbige**, forming part of the **Pagalatṭi** **Three-hundred**, during the last lunar day of **Āśāḍha** in the cyclic year **Krōdhi**,

<sup>1</sup> Read *ṣ tapasvīyargge*.<sup>2</sup> Read *shashṭir=varsha*.

the 926th (year) of the Śaka era, during an eclipse of the sun, **Seṭṭi Brahmayya** granted for the god Brahmāśvara a field, 200 *mattar*; . . . for the drummers and public women he granted a field, 30 *mattar*; for the monastery he granted a field, 50 *mattar*; for the benefit of the temple he granted a field, 120 *mattar*.

(Lines 23-29) **Āychakabbe**, daughter of **Gennayya** of **Kalkere**, granted for the monastery out of her own honorary estate a field, 50 *mattar*. Thus (there are) for the monastery 100 *mattar*.

(Lines 29-47) Likewise out of the revenues of this land they shall provide food and clothing for the 5 ascetics living in celibacy. In the case of any superiors of this place, if there should be committed a breach of celibacy or the like in conducting the highest offices, they shall expel (them).<sup>1</sup> The leading men shall be such. They shall preserve this pious foundation, under this constitution. If the mayors of the town and the burgesses should have neglected it, guilt shall accrue to them. Any person, whether of the mayors of the town or of the burgesses, who should violate this constitution or any other constitution, (will become) a dog, an ass, or a Chāṇḍāla, an outcast from society.

(Verses 1 and 2: Sanskrit formulæ.)

(Line 70) Happiness! great fortune!

### NO. 3.—A NAGA FIGURE IN THE MATHURA MUSEUM.

By Y. R. GUPTA, B.A.

On page 18 of the Annual Progress Report of the Archæological Survey of India, Northern Circle, for the year 1908-1909 an inscribed pedestal from Rāl (No. 45) is mentioned. The upper part of the image must have been found since I examined the sculpture at Mathura. It represents a Nāga standing between two Nāgīs. The height of the sculpture is 4' 2". The inscription measures about 2 ft. in breadth and 7 in. in height.

The image came from a mound near the village of Bhadāl about six miles from Mathura. From local enquiries it appeared that people from the neighbouring villages used to visit the spot and vows were made to the deities by barren women. When they got sons, they resorted to the place for tonsuring their hair.

The Nāga in the centre has a canopy of seven hoods with forked tongues, as is usually the case with the other Nāga images of Mathura, and is similarly dressed. The threefold triangular necklace is a little damaged on the breast. We can see the bracelet on the right wrist, and a similar one on the left is hidden by the upper garment. The position of the hands is similar to that of the Nāga figure from Mathura city of the Kushāṇa year 52 (A. S. R. for 1908-9, Plate LIV). The left hand holds a small vessel; and a lotus bud is visible in the right. The Nāgīs are dressed in garments of the same stuff as the Nāga and have the same appurtenances in their hands. Beneath the feet of the deities were short inscriptions, now much defaced, which probably contained their names. The vestiges that remain favour this view.

On the pedestal are five males and five females and also two boys with folded hands. They are worshippers. The right hand of the man to the extreme proper right is gone. The male to the left and the female to the extreme proper left have their hands folded, the others holding lotus stalks in their right hands. On the lower part of the pedestal is an interesting inscription

<sup>1</sup> [ *Uttamāgrah* means 'sumptuous meal'; see *South Indian Inscriptions*, Vol. III, Part III, p. 266, footnote 1. (The meaning is: One of the superior members of these will be provided with a sumptuous meal'.—H. K. S.) ]



*From a photograph kindly supplied by Mr. H. Hargreaves*

SCALE ONE-SIXTH

Mathura Naga Image inscription : the year 8 of Kanishka.



of three lines, of which the second and third are much damaged, making the decipherment of a part of the third line impossible.

Several images of Nāga deities, both inscribed and without inscriptions, have been found in Mathura. Of these the following are dated :—

Image of Dadhikarna, of Samvat 26 va 3 di 5 (*Ind. Ant.*, Vol. XXXIII, p. 102, and *Ep. Ind.*, Vol. I, pp. 380 f. and 390, No. XVIII, and Dr. Vogel's paper in the *Arch. Survey Report* for 1908-9, pp. 159 ff.).

Nāga image of the year 40 of Huvishka, in the second month of winter, the 23rd day (Dr. Vogel's catalogue of the Arch. Museum at Mathura, No. C 13, pp. 88-9; *A. S. R.* for 1908-9, p. 161).

Nāga image of sa 52 va 3 di 25 (Dr. Vogel's catalogue of the Arch. Museum at Mathura, p. 91), *Arch. Survey Report* for 1908-9, p. 161.

Besides, there is a fragment which Dr. Vogel assigned to the 3rd century of the Christian era (Dr. Vogel's catalogue of the Arch. Museum at Mathura, p. 90; *A. S. R.* for 1908-9, p. 162).

The image described in this note dates from the year 8 of the Kushāṇa era and is the earliest dated Nāga one at Mathura.

The palaeography does not call for many remarks. The general characteristics are dealt with in Dr. Bühler's *Indian Palaeography*, edited by Dr. J. F. Fleet, p. 41. The peculiarities observable in the present inscription are these :—(1) The *kha* is triangular below, but its hook is large; (2) the upper horizontal stroke of *ra* is turned into a curve, while the lower is split up into lines; (3) *ta* in the 3rd line shows a loop; (4) the lower part of *da* is more slanting than in all examples given by Dr. Bühler; (5) *va* is rounded on the left; (6) the left limb of *sa* is never turned into a loop.

#### TEXT.<sup>1</sup>

- L. 1 Mahārājasya rāj-[ā]tirājasya [Shāhi] Kāpikkhasya Sa<sup>2</sup> 8 gri 4 di 5  
 L. 2 as[yā]m p[ūrvv]āy[ā]m bhagavataḥ [Bhūmi-nāga]sya (1) pukshiripi ār[ā]mā  
 cha pra[ti]-  
 L. 3 [shthāpitō . . . putras[y]a . . . ṭurasya niya[mada]kisiya [sarvva]sat[v]a<sup>2</sup> hi(hita)-su  
 (sukhārtham) (2) . . . . .

#### REMARKS.

(1) There can be little doubt about the reading *Svāmi-nāgasya*. I have examined the stone in all lights and shades. (2) *Hi* and *su* at the end of the third line stand for *hita-sukhārtham*. This abbreviation is due to want of space.

#### TRANSLATION.

In the year 8 of the great king, the king of kings the Shāhi Kāpikkha in the fourth (month of) summer, on the 5th day on that (date specified as) above, a tank and a garden of the holy Bhūmi naga was founded . . . . . °tura, son of . . . . . for the welfare and happiness of all sentient beings.

The Prākṛitized form *Kāpikkha* deserves notice. The form with the long *ā* in the first syllable has already been observed in two inscriptions, namely those on the statue of Kānishka

<sup>1</sup> From the original.

<sup>2</sup> It appears that the engraver first cut *sya*, but afterwards found out his mistake and deeply engraved only *sa*.

himself and the Bodhisattva statue of the Kushāṇa year 3, in the Sārnāth Museum. Bhāmināga is first met with in this record.

#### No. 4.—A VAKATAKA INSCRIPTION FROM GANJ.

By V. S. SUKTHANKAR, PH.D.

This inscription, which is now brought to notice for the first time, was discovered by my friend Babu Rakhaladas Banerji, Superintendent, Archaeological Survey of India, Western Circle, in 1919, during one of his tours of inspection in Central India. The excellent estampages from which the accompanying blocks have been prepared were made under his direct supervision, and very kindly placed by him at my disposal for publication.

The inscription, Mr. Banerji tells me, is engraved on a detached slab of stone which he found lying at the bottom of a *dongā*, adjoining a hill called Maluhā-ṭongi near Ganj in the Ajayagaḍh (Ajaiagarh) State in Bundelkhand. Close by is a ruined stone structure, probably a dam to hold the waters of the stream passing along the *dongā*. The find-place of the record is not far removed from the ruined city of Kuṭhārā, where Cunningham discovered in 1883-84 the Nāchanē-ki-talāi inscription, which was first brought to notice by him, in 1885, in *Archæological Survey of India*, Vol. XXI, pp. 97 f., and re-edited by Fleet in *Gupta Inscriptions*, pp. 233 ff. and Pl. xxxiii B. The Ganj inscription, like the one discovered by Cunningham, is one of the oldest records of the Vākāṭaka dynasty, and as such is worthy of being carefully preserved.

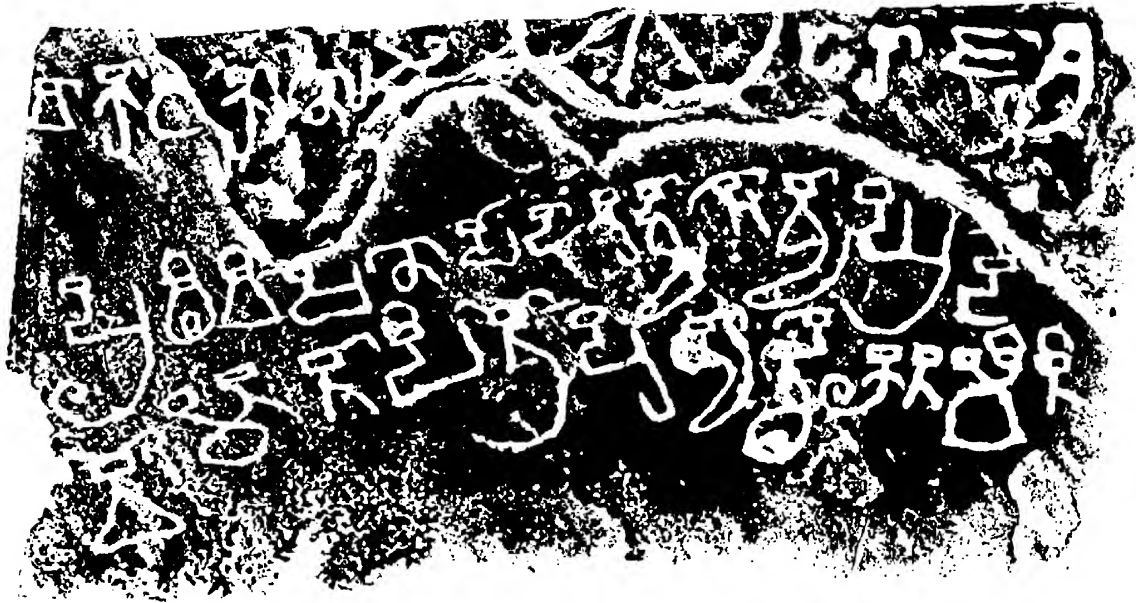
From the subjoined transcript it will be seen that the text of our inscription is practically identical with that of the Nāchanē-ki-talāi record of the reign of Mahārāja Prithivishēṇa, edited by Fleet in *Gupta Inscriptions*; it differs from the latter only in the length and the number of lines, and in the spelling of a couple of words. But our inscription is in a much better state of preservation than that edited by Fleet; at all events the stone has yielded an impression far superior to the one from which the block accompanying Fleet's article was prepared. Consequently we can study the forms of the letters in the subjoined facsimile much better than in that of the Nāchanē-ki-talāi version. Moreover, the writing of this inscription being perfectly distinct, we can give a transcript which is more reliable, and which at the same time discloses certain minor inaccuracies in Fleet's transcript, errors which even then could have been avoided by a more patient study of the available material.

The writing covers a space about 25" broad by 12" high. In the centre of the first line of the inscription there is a sculpture of a wheel, of which only a part is visible in the facsimile. The average size of such letters as *m*, *p* and *v* is about 2".—The characters belong to the 'southern' variety of alphabets, of which the distinguishing features, in our inscription, are the hooks at the lower ends of the verticals of *k* and *r*. In particular, we may say that the letters are a specimen of the Central Indian alphabet of the period, which on account of the peculiar 'box-headed' tops of the letters is known as the 'box-headed' sub-variety of the southern alphabet.<sup>1</sup> In our specimen the boxes are very conspicuous, and uniformly hollow. The letters are unequal in size and uncouth in appearance. It may be added that they betray a conscious effort to substitute angles for curves in the configuration of letters. The letters *t* and *n* are sharply distinguished from each other: the latter has always a knot at its lower end.—The language is Sanskrit, and the inscription is in prose.—As regards the orthography the only point calling for remark is the phonetic doubling of the *d* of *dh*, in °*d-ā(m)nuddhyātō* (l. 2), before *y*, and of the *t* of *th*, before *r*, in *punyā-rtthē* (l. 3).

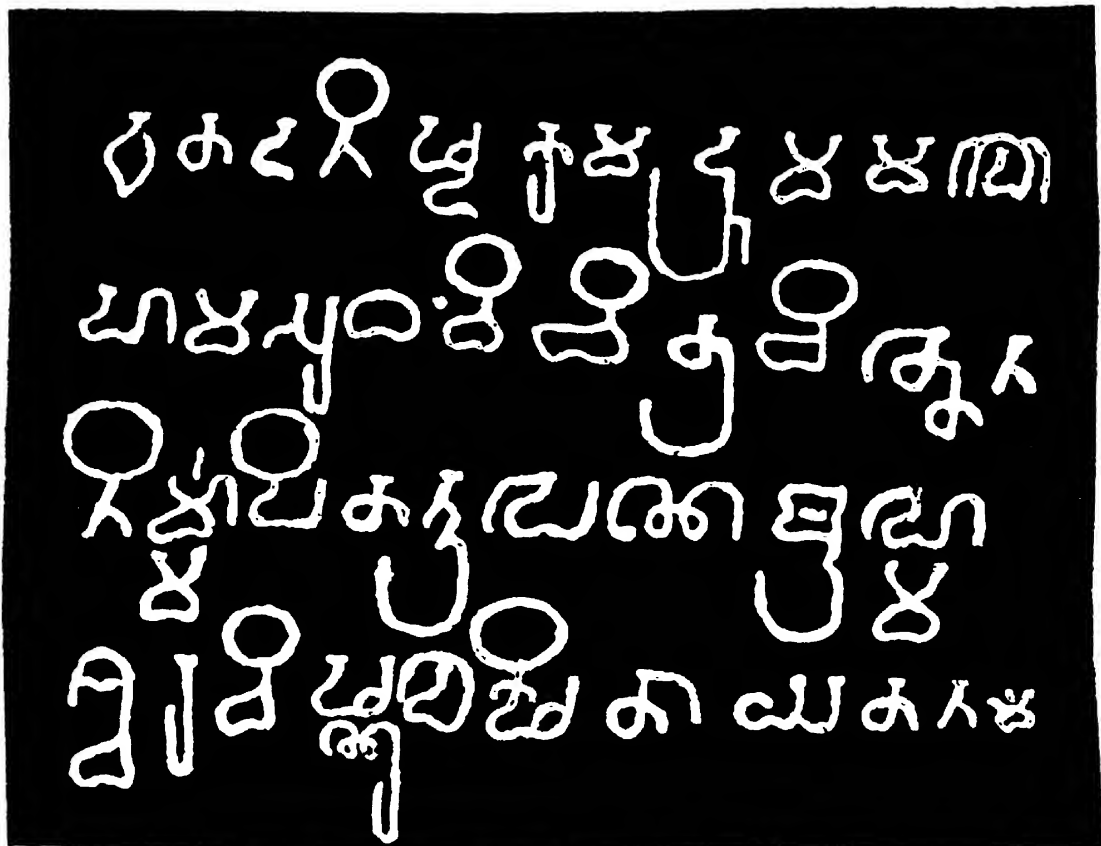
<sup>1</sup> See Bühler, *Indische Palæographie*, p. 62.



1. A Vakataka Inscription from Ganj.



2. Mandagappattu Inscription of Vichitrachitta.







The inscription, which is a record of the reign of *Mahārāja Prithivishōṇa* [I.] of the *Vākātaka* family, states merely that a feudatory of his, *Vyāghradēva* by name, had made something or other for the sake of the religious merit of his parents. The exact nature of this act of piety has been left unspecified, just as in the other version discovered by Cunningham. The silence of these records on the point leads us to infer that the slabs on which the inscriptions are inscribed must have been built into that the making of which they were intended to record.

Our information regarding the *Vākātaka* dynasty is unfortunately very scrappy. All the important events in its history known to us have been succinctly summarized by Kielhorn<sup>1</sup> in his article on the *Bālāghat* plates of *Prithivishōṇa* II.; we can even now add nothing of consequence to what has been said there. We do not possess exact dates for any of the kings of this family, nor can we form any clear idea of the extent of the country ruled over by them. Regarding *Prithivishōṇa* I. we know that he was the son of *Rudrasēna* I. and the great-grandson of *Pravarasēna* I., the latter being either the very first king or one of the early kings of this house. It should seem that the *Vākātaka* king at whose hands the 'lord of Kuntala' had suffered defeat, as recorded in the *Vākātaka* stone inscription at *Ajaṇṭā*,<sup>2</sup> was this same *Prithivishōṇa*. Beyond these few facts we know nothing of much consequence regarding the king referred to in our record.

About *Vyāghradēva*, the feudatory of *Prithivishōṇa*, we know still less. Indeed, *Vyāghra* appears as the name of chieftains in several well-known inscriptions;<sup>3</sup> but it is not possible to identify our *Vyāghradēva* with any of them.

Bühler<sup>4</sup> assigns the copper-plates of the *Vākātaka* *Pravarasēna* II., the grandson of *Prithivishōṇa* I., to the fifth or sixth century A.D.; it is not known to me on what grounds. I have examined the inscriptions of the *Vākātaka* dynasty and compared them with the allied inscriptions engraved during the time of the *Guptas*,<sup>5</sup> of the kings of *Śarabhapura*,<sup>6</sup> of *Tivara*,<sup>7</sup> of *Kōsala* and of the early *Kadamba* kings,<sup>8</sup> without being able to arrive at any definite conclusion regarding the age of the *Vākātaka* inscriptions. Bühler's date, however, appears to me to be far too early. My impression is that there can be no objection, on palaeographic grounds, to assigning this record of the *Vākātakas* to as late an epoch as the seventh century A.D. I conclude this short notice by drawing attention here to the remark of Kielhorn that the *Bālāghat* plate of *Prithivishōṇa* II., who was the son of the great-grandson of the *Prithivishōṇa* of our inscription, "may be assigned with probability to about the second half of the eighth century A.D."<sup>9</sup>

#### TEXT.<sup>10</sup>

- 1 <sup>11</sup>*Vākātakāṇā mahārāja-śrī*<sup>12</sup>.
- 2 *Prithivishōṇa-pād-ā(m)nuddhyātō Vyāghradē-*
- 3 *vō mātāpitrō[h\*]* <sup>13</sup>*puny-ārthō* <sup>14</sup>*kṛitam=iti* [||\*]

<sup>1</sup> Above, Vol. IX, pp. 268 f.

<sup>2</sup> *Arch. Surv. West. Ind.*, Vol. IV, p. 124, verse 8.

<sup>3</sup> Kielhorn's *List of Inscriptions of Northern India*, Nos. 270, 387 and 509.

<sup>4</sup> *Indische Palaeographie*, pp. 62 f.

<sup>5</sup> *Corpus Inscriptionum Indicarum*, Vol. I, Nos. 2-3.

<sup>6</sup> *Gupta Inscriptions*, Nos. 40-41.

<sup>7</sup> *Ibid.*, No. 81.

<sup>8</sup> *Ind. Ant.*, Vol. VII, pp. 35-7.

<sup>9</sup> Above, Vol. IX, p. 270.

<sup>10</sup> From a set of estampages prepared and kindly lent to me by Mr. R. D. Banerji.

<sup>11</sup> Read *Vākātakānām*. Fleet in his transcript has wrongly spelt this word with the dental *n* in *Gupta Inscriptions*, Nos. 53-54.

<sup>12</sup> Read *śrī*.

<sup>13</sup> Read *puny-ārthō*. Here also Fleet has wrongly transcribed the word, both as regards the dental *n* and the case-ending. In Cunningham's version the word is spelt exactly as here.

<sup>14</sup> The construction is faulty. The verb should be in the active voice.

## TRANSLATION.

**Vyaghradēva**, who meditates on the feet of the *Mahārāja* the illustrious **Prithivishēṇa**, (of the family) of the **Vākṣakas**, has made (this) for the sake of the religious merit of (his) parents.

## No. 5.—MANDAGAPPATTU INSCRIPTION OF VICHITRA-CHITTA.

By T. A. GOPINATHA RAO, M.A., TRIVANDRAM.

The small village of Maṇḍagappattu is situated in the Villupuram *Taluka* of the South Arcot District and is about five miles south-west of Pērapai, a station on the main line of the South Indian Railway. In a small hill near Maṇḍagappattu is cut out a shrine, on the façade of which is engraved the inscription which is edited below. The shrine has at its back end three niches, which are dedicated to the gods Brahmā, Īśvara and Viṣṇu respectively. On the panels on either side of this shrine is carved a *dvāra-pālaka*; the figure on the right very much resembles those which are found in the rock-cut shrines attributable to the Pallava king Mahēndravarmān I. From this and other considerations based upon its architectural peculiarities Mons. G. Jouveau-Dubreuil has attributed its excavation to Mahēndravarmān I. A photograph of the front view of this rock-cut shrine is given by him in his *Pallava Antiquities*, Vol. I, Pl. XXVIII. The cave was visited by the staff of the office of the Madras Epigraphist, and the inscription was copied in 1905. Regarding this cave Mr. Venkayya wrote in his *Annual Report on Epigraphy* for that year thus :—"The cave at Daḷavāṇṇūr in the Tiṇḍivapam *Taluka* consists of a shrine and a *maṇḍapa* in front of it, thus resembling to a certain extent the upper cave at Trichinopoly, while that at Maṇḍagappattu (mentioned in Mr. Sewell's *List of Antiquities*, Vol. I, p. 209) is a smaller one, which looks as if it had been left unfinished . . . . . There is only one inscription in the Maṇḍagappattu cave, which is so much damaged that the name of the king cannot be made out. To judge from what remains of it, we may say that it must also belong to the Pallava period. And, as we know that it was Mahēndravarmān I of that dynasty that excavated almost all the hitherto known monolithic caves in the Tamil country, we may not be altogether wrong, if we suppose that the one at Maṇḍagappattu also came into existence during his reign." Depending upon probability, Mr. Venkayya hazarded a guess which has now turned out to be quite correct. It is true that the shrine was excavated during the reign of Mahēndravarmān I; but no serious attempts were made by the Madras Government Epigraphists at deciphering this epigraph. The credit of having made out the name of the king belongs to the French Professor, Mons. G. Jouveau-Dubreuil, of Pondicherry. He has visited Maṇḍagappattu more than once to obtain eye-copies and mechanical impressions, as also to acquire any further knowledge by studying the inscription directly from the stone. His zeal and perseverance have been richly rewarded by his discovery of the name of the king in whose reign the shrine was excavated. At this stage he sent me the impression of the inscription and his eye-copy, so that I might complete the reading of the document, translate and annotate it. When my notes, translation, etc., went to him, it had become impossible for him to edit the inscription himself; for he had to proceed to Cochin China on military duty. He therefore sent me a good photograph of a very carefully prepared eye-copy and asked me to edit the epigraph as early as possible. From the mechanical impression kindly lent to me by Mons. Jouveau-Dubreuil and the photograph of the eye-copy prepared jointly by me and that gentleman I edit this important inscription below.

The record consists of four lines of writing in Grantha characters of the first half of the 7th century A.D., and is a Sanskrit verse in the *Gīti* metre. As has been remarked by Messrs. Venkayya and Jouveau-Dubreuil, the inscription is somewhat badly damaged, and it is only with difficulty that one can read it successfully; but one need not on this score imagine that the

reading is fanciful. The inscription states that the shrine was caused to be made by the king Vichitra-chitta for the accommodation of the three deities *Brahmā*, *Īśvara* and *Vishṇu*, without using in its construction bricks, timber, metal or mortar. This short record is of importance in more ways than one. The most important information conveyed by it is that before the time of Vichitra-chitta bricks, timber, metal and mortar were the common temple building materials. Evidently the basement and walls of the buildings were of brick work, plastered with chunam, and the superstructures were composed of wood work held in position by the use of metallic nails and bands. This, in fact, is even to this day the mode of construction of temples on the Malabar Coast. It is difficult to find a single temple in Southern India which belongs to a date prior to the 7th century of the Christian Era. One would naturally be inclined, therefore, to surmise that temple building was never in vogue before that century. But immediately after this period we see a number of temples which have sprung into existence, and this also seems to lend weight to the surmise that no temples were built before the time of Mahēndravarman I in Southern India. The statement made in this inscription that Mahēndravarman did not employ bricks, timber, metals and mortar clearly warrants us in drawing the conclusion that the temples built before his time were all of such easily perishable materials as bricks, etc., that they were all ruined in course of time, and that this is the first rock-cut shrine of his. This is clear from the special mention of *anishṭaka*, etc., in the case of this shrine. It is impossible for a number of temples to have come suddenly into existence from the beginning of the 7th century, unless the building of temples had been practised long before.

We know from the inscriptions of the cave temple at Pallāvaram that Vichitra-chitta was one of the *birudas* of Mahēndravarman I (see Pl. XXI in the *Pallava Antiquities* of Mons. G. Jouveau-Dubrenil, wherein the name Vichitra-chitta is clearly legible; *vide* also for the *biruda* Vichitra-chitta, p 74, para. 14, of *Ep. An. Rep.* for 1909). It is, therefore, patent that the shrine was caused to be excavated by Mahēndravarman I.

Again, the *biruda* Vichitra-chitta means 'the curious or inventive-minded one.' One can easily concede to the king Mahēndravarman the title 'inventive-minded,' in so far as he avoided bricks, etc., commonly used by all in the construction of their buildings, and devised quite a new path, namely the cutting out of rock-temples, which needed neither bricks, timber nor mortar. His country extended far north of the river Kṛishṇā, where he must necessarily have seen some of the earlier rock-cut temples and so have introduced into Southern India the new style of cutting temples in rock. That he was the first to introduce into Southern India the method of excavating temples in the solid rock is certain; for we do not find even a single rock-cut shrine which belongs to a time before the reign of Mahēndravarman. We know of no less than fifty rock-cut shrines in Southern India, not one of which is earlier than the time of this Pallava king. In fact, the art of cutting temples out of rock was contemporaneous with the Pallava dynasty and disappeared after them.<sup>1</sup>

The *birudas* of Mahēndravarman are not mere boasts; each of them has a meaning which is based upon some act done by him. We have seen that the *biruda* Vichitra-chitta is assumed by him for his invention of a new method of raising temples. Similarly, the *biruda* Matta-vilāsa is, in fact, indeed due to his having composed the pleasant little burlesque the *Mattavilāsa-prahasana*, in which he ridicules an actual *matta* or madman, a drunken Kāpālīka and meat-eating Baudha Bhikshu.<sup>2</sup> Mention is made of this burlesque in his inscription found in Māmaṇḍūr;

<sup>1</sup> [See *South-Indian Images*, Introduction, pp. 1 f.—H. K. S.]

<sup>2</sup> The following extracts from this work will show that it was the composition of Mahēndravarman:

सूचार्:—भवति ! श्रुयताम् । पञ्चवक्त्रधरश्चिन्मखलकुलपर्वतस्य सर्वमयविजितसमस्तमानसखलस्य चार्थक-  
समपराक्रमविभ्यः श्रीमहिमानुपदानविभूतिपरिभूतराजराजस्य श्रीशिवविष्णुब्रह्मणः पुत्रः शत्रुघ्नदुर्गनिरुद्धपरः  
परहितपरतन्त्रतया महाभूतसधर्मा महाराजः श्रीमहेन्द्रविक्रमवर्मा नाम ।

The *birudas* Avani-bhājana, Guṇa-bhāra, Matta-vilāsa and Śatru-malla are also introduced ingeniously in the play; these, we know, are the *birudas* of Mahēndravarman I,

the portion where it occurs is somewhat damaged, but the name of the work is not broken; the passage runs thus: *Muttavilāsādi-padam-prahasam-ottamam*<sup>1</sup> . . . and in the other fragments of the inscription we see that mention is made of poets like Vyāsa and Vālmiki, as also of *tālas*, etc., of music. Thus then each *biruda* of Mahēndravarman appears to have been bestowed on him or assumed by him for some ostensible reason. The *biruda* Saṅkīrpa-jāti<sup>2</sup> of this king is rather curious; it means 'of mixed caste.' Perhaps the parents of Mahēndravarman were of different castes. The significance of the other *birudas* will become patent as further researches are made.

It is interesting to note that at the time of Mahēndravarman the three deities Brahmā, Śiva and Viṣṇu were enshrined together in the same temple in adjacent niches. Such a group consisting of Brahmā, Viṣṇu and Śiva is called Hari-Hara-Pitāmaha or Dattātrēya. (See my *Elements of Hindu Iconography*, Vol. I, pp. 251-256, as also Pl. LXXII, fig. 1 of the same volume.) At Mahābalipuram also there exists a Trimūrti cave; but, strangely enough, the cell which is supposed to have been dedicated to Brahmā is occupied by a figure which has only one face. The figure of Brahmā ought, according to the *āgamas*, to be always shaped with four faces, and in practice also we find that three faces are always shown in sculpture, the fourth being supposed to be at the back of the figure. In spite of the fact that the figure in the Mahābalipuram rock-cut shrine has only one face Dr. Vogel in his *Iconographic Notes on the Seven Pagodas*, contributed to the Director-General of Archaeology's Annual Report for 1910-11, identifies the figure with Brahmā (see page 58). Prof. Jouveau-Dubreuil has sent me a note containing his own explanation concerning this image for publication here, which I reproduce below. "The Trimūrti cave at Mahābalipuram is formed of three cells; the one on the right contains an image of Viṣṇu, and the middle one an image of Śiva. It is, therefore, but natural to suppose that the left cell contains an image of Brahmā. I was the first author to remark (vide *Archéologie du Sud de l'Inde*, Vol. II, Pl. XVIII B) that the god in the left cell has only one head and so could not be identified with Brahmā. I have thought fit to affirm that this unknown god is Subrahmanya, who is represented also on the ground-floor of the Dharmarāja Rathā<sup>3</sup> (*Archéologie du Sud de l'Inde*, Vol. II, Pl. XVIII B). However, the problem why the trinity Subrahmanya, Śiva and Viṣṇu is found in place of the usual trinity Brahmā, Viṣṇu and Śiva has remained till now unsolved. I believe I shall be able to explain why Subrahmanya is substituted for Brahmā in the group of the trinity at Mahābalipuram. Mr. T. A. Gopinatha Rao says in his *Elements of Hindu Iconography*, Vol. II, Part II, page 439, 'Brahma-sāstā: This is the aspect of Subrahmanya in which he put down the pride of Brahmā by exposing his ignorance of the Vēdas. He should be represented with a single face and four arms; he should have only two eyes. In the back hands there should be the *akṣhamālā* and the *kamaṇḍalu*,<sup>4</sup> and the front hands should be held in the *varada* and *abhaya* poses. The colour of Brahma-sāstā should be the red of the lotus flower.' If we note that the image of Subrahmanya in the Trimūrti cave wears on its breast a double chaplet of *candrakṣa* beads, and that at the entrance to the sanctuary there are two personages dressed as Saunyasins and having pointed beards, we shall conclude that the sculptors of Mahābalipuram have put Subrahmanya in the place of

<sup>1</sup> This fact was also discovered by Prof. Jouveau-Dubreuil: see his *Pallavas*, p. 38.

<sup>2</sup> [*Saṅkīrpa-jāti* is the name of a variety of musical time. Perhaps Mahēndravarman I held this *biruda* as an inventor of this method of keeping musical time.—H. K. S.]

<sup>3</sup> Behind the rock bearing the Trimūrti shrine are executed the figures of a peacock, an elephant and a monkey, carved in half relief. We know that the peacock is the characteristic vehicle (*rāhana*) of Subrahmanya. The elephant is generally associated with the temple of Sāstā, and is here perhaps intended to show that the image is that of Brahma-sāstā. [Temples of Traipurushadēva are found dedicated to Sun, Śiva and Viṣṇu. Why should not the Brahma-sāstā figure represent the Sun?—H. K. S.]

<sup>4</sup> Dr. Vogel takes the objects in the back hands as a flower and a ring, neither of which is right. The hands carry only a *kamaṇḍalu* and an *akṣhamālā*, as required by the *āgamas*.

Brahmā because they have placed there Brahma-śāstā, a deity superior to Brahmā in his knowledge of the Vēdas. I think fit to draw attention to the existence of the trinity consisting of Subrahmanya, Śiva and Viṣṇu and also to explain it with the help of the above-mentioned excellent work of M. R. Ry. T. A. Gopinatha Rao."<sup>1</sup>

TEXT.<sup>2</sup>

- 1 एतदनिष्टकमद्वयम[मलो]-
- 2 इमसुधं[विचित्रचि]त्तेन [१\*]
- 3 निर्मापितमपे[ण] ब्रह्मे-
- 4 श्रविष्णुल[क्षि]तायतनम् [१\*]

## TRANSLATION.

This brickless, timberless, metalless and mortarless temple, which is a mansion for (the Gods) Brahmā, Īvara and Viṣṇu, was caused to be created by the king Vichitra-chitta.

## No. 6.—THE FIRST ARYA-SIDDHANTA.

## MEAN SYSTEM.

(A continuation of the author's "Indian Chronography.")

BY ROBERT SEWELL, I.C.S. (RETIRED).

303. It has long been known that in earlier years the Pañchāṅg Brahmans in India framed their local almanacs on calculations made by the use of the mean, as opposed to the true or apparent, motions of the sun and moon. The change from the mean to the true systems of calculation was advocated by Śrīpathi (A.D. 1040), and the latter system may have been adopted in some places about that time; becoming more general from about A.D. 1100 onwards. India, however, is a very conservative country, and the late Dr. Fleet was of opinion that the mean system may have been adhered to, in some tracts at least, till a far later date.

304. With this opinion in mind I have prepared the Tables which follow, so as to cover the period of nine centuries from Āryabhaṭa's date, K.Y. 3600 (A.D. 499-500), to 4500 (A.D. 1399-1400). It would be well if all dates of inscriptions that have hitherto been set aside as irregular by epigraphists could be re-examined, seeing that the difference between the two systems of the *Ārya Siddhānta* constantly leads to differences in the computed positions of the sun and moon on the same civil day, and consequently to differences in the almanac; let alone the differences caused by the use of different Siddhāntas.

Thus, to give an example. The civil day, Monday, 21 October A.D. 1090, was by the *Ārya Siddhānta* true system described as "Monday, 25 Tūlā, nija Āśvina kr. 10," while by the mean system it was "Monday, 27 Tūlā, Kārttika kr. 10." Thursday, 31 Oct., in the same year was by the true system "Thursday, 5 Vṛiśchika, Kārttika śukla 6," while by the mean system it was "Thursday, 7 Vṛiśchika, Mārgaśīra śukla 5."

305. The present Tables are based on the First *Ārya Siddhānta* as amended by Lalla. The principal Table LXXVI is framed on the lines of the *Indian Calendar*, Table I, so as to meet the convenience of epigraphists who have become accustomed to the use of that work. The numbers of the columns are made to correspond in both Tables.

Results of calculation carried out by the present Tables will be found to correspond with those worked by use of Professor H. Jacobi's skeleton Tables published in Vol. XI above. There is no need for me to dwell on the great services he has rendered to the cause of Indian history and epigraphy. These are well known. All I have done is to follow in his footsteps,

<sup>1</sup> This note is reproduced here exactly as it was sent by Mons. G. Jouveau-Dubreuil; no corrections have been effected in it.

<sup>2</sup> [For Plate see the article on 'A Vākātaka Inscription from Ganj.'—F. W. T.]

verify his figures to the best of my ability and apply the results to practical use. Any little differences that exist between us have been fully set forth and their cause explained.

*Elements. Arya Siddhānta, mean system.*

306. (i) The length of the mean sidereal solar year is  $365^d\ 6^h\ 12^m\ 30^s$ , or  $365^d\ 2586805$ .

(ii) For the sun's mean motion per day, hour, etc., see Tables XLIII, XLIV, above, Vol. XIV.

(iii) The distance of mean moon from mean sun (our  $a$ ), measured in 10,000ths of the circle, i.e. 10,000ths of the mean synodical revolution of the moon and excluding 12 whole revolutions, increases, during one sidereal solar year, from 0 to  $3688\cdot231484714$ . That is the advance of  $a$  in the year. Table LXIV A above, col. 3, shews this advance per day, and Table LXV the advance per hour, etc.

(iv) The value of  $a$  in mean reckoning corresponds to that of  $t$ , the tithi-index, in true reckoning. It shews what mean tithi was current at the moment in question.<sup>1</sup> In general calculation by the Tables this moment is the moment of mean sunrise at Laṅkā, taken as 6 A.M.

(v) In reckoning by 10,000ths of the circle the advance of  $a$  in one mean solar month is  $307\ 352623726$ .

(vi) Each mean solar month consists of  $30^d\ 10^h\ 31^m\ 21^s$ . The collective duration from the moment of mean Mēsha-saṁkrānti (the beginning of the mean solar year when the mean sun is at celestial long.  $0^\circ$ ) to each separate saṁkrānti, or the moment when the mean sun enters each of the signs, is given in Table LXXVII.

(vii) The length of each mean lunar month is  $29^d\ 12^h\ 44^m\ 2^s\cdot79$  or  $29^d\ 530587946$ , during which the mean moon's distance from mean sun increases, in our circle reckoning, from 0 to 10,000. The length of one mean tithi, or one-thirtieth of the mean lunar synodic month, is  $23^h\ 37^m\ 28^s\cdot09$ , or  $0^d\ 984352931$ ; during which, in circle reckoning, the increase of  $a$  is  $333\cdot3$ .

(viii) The *sodhya*, or time-difference between the moments of arrival at celestial long.  $0^\circ$  of the true and mean suns, which moments are known respectively as the true and mean Mēsha-saṁkrāntis, is  $2^d\ 3^h\ 32^m\ 30^s$ , true Mēsha-saṁkrānti being the earlier.

The time of occurrence of mean Mēsha-saṁkrānti in every year is given in Table LXXVI, cols. 13 to 17.

(ix) The samvatsara name of the solar year is the same by both true and mean reckonings, except in the years A.D. 564-5, 805-6, 990-1, 1246-7 and 1331-2. A special footnote is appended to the main Table LXXVI in each case.

(x) There can be no suppression of a lunar month when calculation is made by the mean system; for the length of a mean solar month is greater than that of a mean lunar month, so that two mean solar saṁkrāntis cannot take place within the limits of one mean lunar month.

(xi) Let it be noted that no intercalation of a lunar month can take place unless, at mean sunrise of the day on which mean Mēsha-saṁkrānti took place, the value of  $a$  is more than  $6280\cdot4892$ , or unless at the moment of mean Mēsha-saṁkrānti the value of  $a$  is more than  $6619\cdot1211$ ; the latter value being  $10,000 - 3380\cdot8789$ , the total increase of  $a$  from Mēsha- to Mīna-saṁkrānti, and the former being  $6619\cdot1211 - 338\cdot6319$ , the latter value being the increase of  $a$  in 24-hours.

*The 19-year intercalation cycle.*

307 (See Indian Calendar, § 50, p. 29.) By the mean system the cycle-sequence is found to work with almost perfect regularity. After four successive intercalations at intervals of 10 years each the intercalated lunar month gives way to the month preceding it. But there are

<sup>1</sup> The equations of sun and moon are not taken into account in mean reckoning.

two exceptions in the nine centuries embraced in Table LXXVI. Between A.D. 751 and 827 there is a run of five intercalary mean Pausa months, and between A.D. 1242 and 1318 there is a run of five intercalary mean Āśvina months.

In eleven instances the names of the mean intercalary months given in Table LXXVI differ from those stated in the *Indian Calendar*. These differences are due to the former calculations having been based on Professor Jacobi's earliest Tables published 30 years ago, while the present ones agree with the results of calculation made by his more recent elementary fixtures. Each difference is specially noted at foot of Table LXXVI.

#### *The nakshatra.*

308. In the mean system the position at any moment of the mean moon in the ecliptic circle, i.e. the mean moon's nakshatra, is found by adding her mean distance from the mean sun to the latter's longitude; that is to say, by adding to the value of  $s$  (the mean sun's longitude) the value of  $a$  at the same moment as found by calculation for the mean tithi. All work by the Tables being in the first instance for the mean positions of sun and moon at mean sunrise of any day, Table LXXX provides the sun's mean long.,  $s$ , in 10,000ths of the circle, for each period of 24-hours measured from the moment of mean Mēsha-samkrānti, while Table LXXXI states the same increase for fractions of the day. To obtain the value of  $s$  for mean sunrise of any day it is necessary to note first its value after the interval of days between the day of Mēsha-samkrānti and the given day (Table LXXX), and, since that value is measured from the moment of Mēsha-samkrānti and not from mean sunrise, afterwards to deduct from the value so obtained the increase during that fraction of the day (Table LXXXI). The result is the required  $s$ , or the mean sun's long. at mean sunrise of the given day. Then  $s + a = n$ , the nakshatra index required, or the mean moon's place in the ecliptic circle at mean sunrise of that day.

The Rule for work, then, is as follows. Find the value of  $a$  ( $=t$ ), the mean tithi-index at mean sunrise of the given day (*Example 2 below*). Note the serial number of the day as measured from Jan. 1. Deduct from this the serial number of the day of mean Mēsha-samkrānti (Table LXXVI, col. 13, in brackets). This gives the number of intervening days. Turn to Table LXXX and note the value of  $s$  against that interval of days. Deduct from this the mean sun's movement given in Table LXXXI during the hours and minutes stated in Table LXXVI, col. 17. The result is the required value of  $s$  at mean sunrise of the given day. Add  $s$  to  $a$ . This  $= n$ , the required nakshatra-index. Table LXVIII above, or Table VIII, *Indian Calendar*, gives the name of the nakshatra.

#### *The Tables.*

309. Table LXXVI corresponds to Table I *Indian Calendar* in formation and is to be used in the same way. Here the value of  $a$  is the value of  $t$ . It gives the tithi-index direct without further calculation.<sup>1</sup>

Table LXXVII shews the duration and collective duration of mean solar months, and the increase in the moon's phase,  $a$ , during each such month.

Table LXXVIII gives the value of  $a$  at the beginning of each Kaliyuga century.

Table LXXIX corresponds, with a necessary shift of position, to Table LXXIV above, the use of which is fully explained in my former papers, §§ 279, 301.

<sup>1</sup> To find the value of  $a$ , or  $t$ , i.e. the exact moon's phase, in 10,000ths of the circle, at any moment of any day, note its value at mean sunrise of the first civil day of the luni-solar year, as given in Table LXXVI (col. 23), and add its value for intervening days, hours, etc. (Tables LXIV, LXV under heading  $a$ ).



Tables LXXVIII and LXXIX, with Table LXXIII above (under heading *a*), which gives the value of *a* at the beginning of each year of the Kaliyuga century, enable us to find the value of *a* at mean sunrise of the civil day Chaitra śukla 1 at the beginning of each luni-solar year. Tables LXXVIII and LXXIII yield the value of *a* at mean sunrise of the day on which mean Mēsha-samkrānti occurred; and Table LXXIX enables, by addition, the *a* for the interval of days between that day and the day Chaitra śukla 1 to be ascertained. [The same can be found by subtracting from the sum of the values obtained from Tables LXXVIII and LXXIII (col. *a*) the value for those intervening days given in Table LXIV above (*see Example 1*).]

The use of Tables LXXX and LXXXI is explained above (§ 308). They correspond, *mutatis mutandis*, with Tables XLVIII A, XLIX above used in calculation for the sun's true longitude.

310. The century-Table LXXVIII requires some further explanation. Its object is to determine the mean moon's phase, *a*, at mean sunrise of the opening civil day of each Kaliyuga century, i.e. the day on which mean Mēsha-samkrānti occurred at some time later on that day. Reference to Table LXXVI shows that this opening day occurred at the beginnings of centuries 36 and 37 K.Y. on a Sunday, and in centuries 38 to 45 on a Saturday. From Table I, *Indian Calendar*, by adding the *sādhya* interval (*above*, § 306, *viii*) to the date and time there given for the moment of true Mēsha-samkrānti, we find that in centuries 46 to 48 it fell on a Friday. In the mean system, therefore, centuries 37 and 45 were defective centuries, while the rest were common.

Table LXXVIII corresponds to Table LXXII above, which concerns true solar years, and by the true system, i.e. calculation by the movements of true sun, the only defective century was century 42. This accounts for the difference between the two Tables.

It has been shewn above (§ 299, i) that the actual value of *a* at mean sunrise of Sunday, 21 March A.D. 499, on which day, 6 hours later, occurred the moment of mean Mēsha-samkrānti (mean sun at 0°) at the beginning of Kaliyuga century 36, was, in notation in 10,000ths of the circle, 7715·352496330. The values of *a* for later century-beginnings are found by addition to this of the century increases of *a*, common and defective as required.

### EXAMPLES.

*Example 1. To find the European day, week-day, and phase of mean moon, i.e. the mean tithi-index a (which = t, the index) at mean sunrise of the first civil day of the luni-solar year; that is to say, of the day called "Chaitra śukla 1" of the year in question.*

[This example is given in order to enable any student to verify the entries in Table LXXVI, cols. 19-23. For ordinary date work the entries themselves afford all information.]

The mean new moon which marks the astronomical beginning of any mean lunar year is the new moon at the end of the lunar month Phālguna of the previous year. The moment of its occurrence is always earlier than the moment in the current year of mean Mēsha-samkrānti, the beginning of the mean solar year. The civil day next following the moment of the initial mean new moon of the year is called "Chaitra śukla 1," that tithi being current at mean sunrise of that civil day. Our tabular calculations being for mean sunrise, the value of *a* in Table LXXVI, col. 23, must always be between 0 and 333·3, the last being the limit of the tithi.

To find its value for any year we must first calculate the value of *a* at mean sunrise on the day of occurrence of mean Mēsha-samkrānti from Tables LXXVIII and LXXIII (*above*) under heading *a*.

This done there are two processes by which the mean sunrise value of *a* on the day Chaitra śukla 1 can be obtained. One is to use Table LXIV, which, by *deducting* from the *a* of mean Mēsha-samkrānti-day mean sunrise (already found) the next lower value of *a* in the Table as given for the first 30 days, yields at once the interval of days between Chaitra śukla 1 and

Mēsha-samkrānti, the value of  $a$  at mean sunrise of the former, and the required week-day. The second process is, using Table LXXIX, to find such earlier day as by adding its  $a$  to the  $a$  of Mēsha-samkrānti, already found, will yield a result between 0 and 333·3. The Table then shows the interval of days between the two sunrises, and the week-day corresponding to Chaitra śukla 1.

A. Take for instance the year K.Y. 3725 expired, A.D. 624-25. Mean Mēsha-samkrānti occurred in that year (Table LXXVI, cols. 13-17) on Wed. 21 Mar.,—serial day 81, from Jan. 1. We take the value of  $a$  at mean sunrise at the beginning of the Kaliyuga century and at the beginning of the expired year from Tables LXXVIII and LXXIII respectively. The result gives the value of  $a$  at mean sunrise of Mēsha-samkrānti day in the given year.

	<i>w-d.</i>	<i>a.</i>
(Table LXXVIII). K.Y. cent. 37 . . . . .	(1)	6583·1816
(Table LXXIII above). K.Y. year 25 . . . . .	(3)	2047·6413
At mean sunrise on Wed. 21 Mar., the day of occurrence of mean Mēsha-samkrānti . . . . .	(4)	8630·8229

*Process 1.*

(Table LXIV above). Next lower value of $a$ in the first 30 days of the Table, i.e. that for 25 days . . . . .	—(4)	—8465·7968
At mean sunrise of the day Chaitra śukla 1 . . . . .	(0)	165·0261

This Chaitra śukla 1 civil day was (81—25=) Day 56, or (Table IX, Indian Calendar, or LXIX above) Sat. 25 Feb. A.D. 624.

*Process 2.*

	<i>w-d.</i>	<i>a.</i>
At mean sunrise on Wed. 21 Mar., the day of mean Mēsha-samkrānti (as above) . . . . .	(4)	8630·8229
(Table LXXIX). The only value of $a$ which yields result between 0 and 333·3 . . . . .	+ (3)	+ 1534·2032
At mean sunrise of the day Chaitra śukla 1 . . . . .	(0)	165·0261

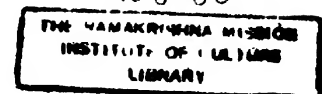
Table LXXIX shews that the interval of days was 25, and the result is in all respects the same as the former.

B. Calculation for the mean sunrise value of  $a$  on the day of mean Mēsha-samkrānti, the first step shewn in the above, by use of Tables LXXVIII and LXXIII sometimes results in the day found being not the actual day on which Mēsha-samkrānti took place but the day next to it. This is inevitable, seeing that only one Table has to stand for the odd years of all centuries. In such case the necessary adjustment must be made for one day's difference. The entries in Table LXXVI, cols. 13 to 17, are conclusive as to the actual day.

Take the year A.D. 625-26, K.Y. 3726 expired. In that year mean Mēsha-samkrānti occurred on Thurs. 21 Mar., serial day 80.

	<i>w-d.</i>	<i>a.</i>
(Table LXXVIII). K.Y. century 37 . . . . .	(1)	6583·1816
(Table LXXIII). K.Y. year 26 . . . . .	(5)	5986·9072
At mean sunrise of Friday, 22 Mar. . . . .	(6)	2570·9888
Deduct value for one day (Table LXIV) . . . . .	—(1)	—338·6319
At m. sunrise of Thurs. 21 Mar., the day of mean Mēsha-samkrānti . . . . .	(5)	2231·4569

10 8030



For the *a* of Chaitra śukla 1 and its day and week-day we use either of the two processes.

<i>Process 1.</i>		<i>w-d.</i>	<i>a.</i>
At m. sunrise of m. M. S.-day, Thurs. 21 Mar. . . .	(5)		2231·4569
(Table LXIV above). Next lower value of <i>a</i> in the first 30 days of the Table, viz. for 6 days' interval . . .	— (6)		—2031·7912
At mean sunrise of Fri. 15 Mar., being the day Chaitra śukla 1 . . . . .	(6)		199·6657
<i>Or, Process 2.</i>		<i>w-d.</i>	<i>a.</i>
At m. sunrise of m. Mēsha-saṁk. day (as above) . . .	(5)		2231·4569
Add (Table LXXIX for 6 days earlier) . . . . .	+ (1)		+7968·2086
Result (same as above) . . . . .	(6)		199·6657

*Example 2.* To find the mean tithi-index *a* for any day in the year, or any moment of any day.

Table LXXVI, cols. 19-23, states the civil day, Chaitra śukla 1, for each year, its serial number from Jan. 1, its week-day, and its tithi-index *a* at mean sunrise. Calculate, from Table III *Indian Calendar* or Table LXIII above, the interval of whole days to mean sunrise on the given day, and, if necessary, the fraction of day subsequent to that sunrise. Add the increment of *a* for whole days from Table LXIV, and for fractions of the day from Table LXV, to the *a* given in Table LXXVI.

Whole numbers may always be used for whole days, the decimals being only resorted to for close cases and when the calculation includes a fraction of a day.

E.g. Required the tithi-index at mean sunrise on Āshāḍha śukla 4 in the year corresponding to A.D. 625-26; and at 8<sup>h</sup> 20<sup>m</sup> 15<sup>s</sup> after m. sunrise on that day.

	<i>d.</i>	<i>w-d.</i>	<i>a.</i>
Table LXXVI. Chait. śuk. 1, mean sunrise . . . . .	(74)	(6)	199·6657
Tables LXIII A, LXIV. Interval to Āsh. śuk. 4, and increase of <i>a</i> . . . . .	(91)	(0)	815·5005
At mean sunrise on Āsh. śuk. 4 day . . . . .	(165)	(6)	1015·1662

Day 165 was (Table IX, *Indian Calendar*, or Table LXIX above) 14 June A.D. 625 (6)=Friday. *a*=1015 shews (Table VIII or LXVIII) that śukla 4 was current at mean sunrise of that day.

For the specific hour mentioned—

	<i>a.</i>
At mean sunrise on that day . . . . .	1015·1662
(Table LXV) . . . . .	8 <sup>h</sup> 112·8773
	20 <sup>m</sup> 4·7032
	15 <sup>s</sup> 0·0586
At 8 <sup>h</sup> 20 <sup>m</sup> 15 <sup>s</sup> after mean sunrise . . . . .	<i>a</i> = 1132·8055

*Example 3.* To find *a* (the tithi-index, or phase of mean moon) at each of the solar saṁkrāntis in the year (the moments of the mean sun's entrance into the several signs), and to determine whether an intercalation of a lunar month took place during the year.

Table LXXVI, cols. 13, 14, 17, shews the day and time of occurrence of mean Mēsha-samkrānti (mean sun at long.  $0^{\circ}$ ) in each year, and Example 1 shews how to find the value of  $a$  at mean sunrise of that day. To that value must be added from Table LXV the increment of  $a$  during the interval from mean sunrise to moment of samkrānti. The advance of  $a$  during each mean solar month, i.e. from each mean samkrānti to the next (Table LXXVII, col. 4) is 307·3526. The work may be carried out by use of whole numbers, except when a case is very close. This occurs when a waning moon is very near 10,000, or when a waxing moon is very near 6.

Required the above details for the years noted in Examples 1, 2, viz. A.D. 624-5 and 625-6.

In A.D. 624-25 mean Mēsha-samkrānti took place  $14^h 2^m 30^s$  after mean sunrise. In A.D. 625-26 it took place  $20^h 15^m 0^s$  after mean sunrise (Table LXXVI, cols. 13-17).

A.D. 624-25. Value of $a$ at m. sunrise on mean Mēsha-sam-	$a$ .
krānti-day, as already found (Example 1) . . . . .	8830·8229
(Table LXV). Increase of $a$ in $14^h$ . . . . .	197·5353
Ditto $2^m$ . . . . .	0·4703
Ditto $30^s$ . . . . .	0·1176
Exact value of $a$ at moment of mean Mēsha-samkrānti . . . . .	<u>8828·9461</u>
A.D. 625-26. Value of $a$ at m. sunrise of mean Mēsha-sam-	
krānti-day as found . . . . .	2231·4569
(Table LXV). Increase of $a$ in $20^h$ . . . . .	282·1932
Ditto $15^m$ . . . . .	3·5274
Exact value of $a$ at moment of mean Mēsha-samkrānti . . . . .	<u>2517·1775</u>

For the several samkrāntis in each year we work here roughly with whole numbers only, adding successively the increase of  $a$  in 1 solar month.

	A.D. 624-25	A.D. 625-26
At Mēsha-samkr. . . . .	<u><math>a=8829</math></u>	<u>2517</u>
	307	307
At Vṛishabha-samkr. . . . .	<u>9136</u>	<u>2824</u>
	307	307
At Mithuna-samkr. . . . .	<u>9443</u>	<u>3131</u>
	307	307
At Karka-samkr. . . . .	<u>9750</u>	<u>3438</u>
	307	307
At Simha-samkr. . . . .	<u>57</u>	<u>3745</u>
	etc.	etc.

In A.D. 624-25 it is seen that the mean moon was waning at the Karka-samkrānti and waxing at the Simha-samkrānti, proving an intercalation of a lunar month, which month (see Table LXXVII, col. 1) was Śrāvaṇa. Actually  $a$  at Simha-samkrānti was 58 36.

In A.D. 625-26 the small value of  $a$  at the moment of *Mēsha-saṁkrānti* shews that there could have been no intercalation in that year (*see above*, § 306, xi).

*Example 4. To find the mean moon's nakshatra, or her place in the ecliptic circle at any moment.*

(*See § 308 above.*) We have to find the value of  $s$ , the sun's mean long., at the given moment and the value at the same moment of  $a$ , the index of the mean tithi.  $s + a = n$ , the index of the nakshatra. I assume that, as usual, the values wanted are those at mean sunrise on the given day; for later moments they can easily be found, from Table LXV for  $a$ , and from Table LXXXI for  $s$ . The example here given will shew the process of work.

Required the nakshatra at mean sunrise on the day referred to in Example 2, viz. *Āshāḍha śukla 4* in K.Y. 3726, which was proved to be 14 June A.D. 625, and on which day at mean sunrise the value of  $a$  was found to be 1015.1662. The day, measured from Jan. 1, was serial number 165. In that year mean *Mēsha-saṁkrānti* took place (*Table LXXVI*) on Day 80 at 20<sup>h</sup> 15<sup>m</sup> after mean sunrise. The interval of whole days between 20<sup>h</sup> 15<sup>m</sup> after mean sunrise on the day of *Mēsha-saṁkrānti* and 20<sup>h</sup> 15<sup>m</sup> after mean sunrise on the given day is (165 - 80 =) 85.

(Table LXXX). Interval of 85 days	.	.	.	.	2327.1179
Less (Table LXXXI) for 20 <sup>h</sup>	.	.	.	22.8149	
for 15 <sup>m</sup>	.	.	.	0.2852	
				<hr/> 23.1001	
				.	- 23.1001
At mean sunrise on the day <i>Āshāḍha śuk. 4</i> ,	.	.	.	.	<hr/> $s = 2304.0178$
Add $a$ , as found for that mean sunrise	.	.	.	.	1015.1662
					<hr/>
At mean sunrise on that day (=14 June)	.	.	.	.	$n = 3319.1840$

Table VIII *Indian Calendar*, or Table LXVIII above, shews that the moon was then in the nakshatra *Āślēṣhā* by the equal-space system and by Garga, but in *Maghā* by the *Brāhma Siddhānta*.<sup>1</sup>

The value of  $n$ , 3319.1840, in 10,000ths of the circle, can be converted into degrees, if required, by Table XLV B, above. It = 119° 29' 26". That was the mean moon's place.

*Example 5. The lagna.* (*See Indian Chronography*, § 193, p. 74, and *Example 63*, p. 127.) Required to ascertain at what hour on the day *Āshāḍha śuk. 4* K.Y. 3726, or 14 June A.D. 625, the sign *Tulā* became lagna.

At mean sunrise the sun's mean long.  $s$  was (*Example 4*) 2304.0178, roughly (*Table XLV above*) 82° 57'. The first point of *Tulā* (*Libra*) (*Indian Chronography*, *Table XXII*) is 180°. 180° - 82° 57' = 97° 3'. 97° × 4 = 388<sup>m</sup>, or 6<sup>h</sup> 28<sup>m</sup>. 3' × 4 = 12<sup>s</sup>. The first point of *Tulā*, therefore, was lagna at 6<sup>h</sup> 28<sup>m</sup> 12<sup>s</sup> after mean sunrise on the day in question. It lasted for 2 hours, when *Vṛiśchika* (*Scorpio*) became lagna.

<sup>1</sup> As to these systems see *Indian Calendar*, § 38, p. 21; *Indian Chronography*, § 112 etc.

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## TABLE LXXVI.

Mean System Table, First Arya Siddhānta.

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TABLE

## MEAN SYSTEM TABLE,

Numbers of columns conform

(Cols. 1 to 4.)—The years herein stated are the *current* years corresponding  
 (Cols. 6 and 7.)—*Saṁvatsara*-names of mean solar years in italics shew where

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAṂVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3601	422	557			499-500	9 Yuvan . . .		9 Mārgaśira .
3602	423	558			*500-01	10 Dhātṛi . . .		...
3603	424	559			501-02	11 Jśvara . . .		...
3604	425	560			502-03	12 Bahudhānya . . .		5 Śrāvapa .
3605	426	561			503-04	13 Pramāthūn . . .		...
3606	427	562			*504-05	14 Vikrama . . .		...
3607	428	563			505-06	15 Vṛisha . . .		2 Vaiśākha .
3608	429	564			506-07	16 Chitrabhānu . . .		...
3609	430	565			507-08	17 Subhānu . . .		10 Pausha .
3610	431	566			*508-09	18 Tārāpa . . .		...
3611	432	567			509-10	19 Pārthiva . . .		...
3612	433	568			510-11.	20 Vyaya . . .		7 Āśvina .
3613	434	569			511-12	21 Sarvajit . . .		...
3614	435	570			*512-13	22 Sarvadhārin . . .		...
3615	436	571			513-14	23 Virōdhin . . .		3 Jyēśhṭha .
3616	437	572			514-15	24 Vikṛita . . .		...
3617	438	573			515-16	25 Khara . . .		12 Phālguna .
3618	439	574			*516-17	26 Nandana . . .		...
3619	440	575			517-18	27 Vijaya . . .		...
3620	441	576			518-19	28 Jaya . . .		8 Kārttika .

## LXXVI.

## FIRST ĀRYA SIDDHANTA.

to Table I, "Indian Calendar."

to the A.D. years in col. 5; as in Table I, "Indian Calendar."

differences exist from *Sūrya Siddhanta* nomenclature in true solar years.

1 Ārya Siddhanta, mean system.

COMMENCEMENT OF THE						Kali year.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	<i>a</i> (here= <i>t</i> , the index of the tithi).	
13	14	17	19	20	23	1
		H. M. S.				
21 Mar. (80) . .	1 Sun. .	6 0 0	27 Feb. (58) .	0 Sat. .	265-4513	3601
20 Mar. (80) . .	2 Mon. .	12 12 30	17 Mar. (77) .	6 Fri. .	300-0909	3602
20 Mar. (79) . .	3 Tues. .	18 25 0	6 Mar. (65) .	3 Tues. .	175-7743	3603
21 Mar. (80) . .	5 Thur. .	0 37 30	23 Feb. (54) .	0 Sat. .	51-4577	3604
21 Mar. (80) . .	6 Fri. .	6 50 0	14 Mar. (73) .	6 Fri. .	86-0973	3605
20 Mar. (80) . .	0 Sat. .	13 2 30	3 Mar. (63) .	4 Wed. .	300-4125	3606
20 Mar. (79) . .	1 Sun. .	19 15 0	20 Feb. (51) .	1 Sun. .	176-0959	3607
21 Mar. (80) . .	3 Tues. .	1 27 30	11 Mar. (70) .	0 Sat. .	210-7356	3608
21 Mar. (80) . .	4 Wed. .	7 40 0	28 Feb. (59) .	4 Wed. .	86-4189	3609
20 Mar. (80) . .	5 Thur. .	13 52 30	18 Mar. (78) .	3 Tues. .	121-0586	3610
20 Mar. (79) . .	6 Fri. .	20 5 0	7 Mar. (66) .	0 Sat. .	9996-7419†	3611
21 Mar. (80) . .	1 Sun. .	2 17 30	25 Feb. (56) .	5 Thur. .	211-0572	3612
21 Mar. (80) . .	2 Mon. .	8 30 0	16 Mar. (75) .	4 Wed. .	245-6968	3613
20 Mar. (80) . .	3 Tues. .	14 42 30	4 Mar. (64) .	1 Sun. .	121-3802	3614
20 Mar. (79) . .	4 Wed. .	20 55 0	21 Feb. (52) .	5 Thur. .	9997-0635†	3615
21 Mar. (80) . .	6 Fri. .	3 7 30	12 Mar. (71) .	4 Wed. .	31-7031	3616
21 Mar. (80) . .	0 Sat. .	9 20 0	2 Mar. (61) .	2 Mon. .	246-9185	3617
20 Mar. (80) . .	1 Sun. .	15 32 30	20 Mar. (80) .	1 Sun. .	280-6581	3618
20 Mar. (79) . .	2 Mon. .	21 45 0	9 Mar. (68) .	5 Thur. .	156-3414	3619
21 Mar. (80) . .	4 Wed. .	3 57 30	26 Feb. (57) .	2 Mon. .	32-0248	3620

† As a mean tithi Chaitra Śukla 1 was suppressed. The civil day corresponding to it, i.e., the first day of the mean luni-solar year, was as given in cols. 19, 20.



TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitradī Vikrama.	Mēshādī solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3621	442	577			519-20	29 Manmatha . .		...
3622	443	578			*520-21	30 Durmukha . .		...
3623	444	579			521-22	31 Hēmalamba . .		5 Śrāvapa .
3624	445	580			522-23	32 Vilamba . .		...
3625	446	581			523-24	33 Vikārin . .		...
3626	447	582			*524-25	34 Śārvarin . .		1 Chaitra .
3627	448	583			525-26	35 Plava . .		...
3628	449	584			526-27	36 Śubhakṛit . .		10 Pausha .
3629	450	585			527-28	37 Śōbhana . .		...
3630	451	586			*528-29	38 Krōdhin . .		...
3631	452	587			529-30	39 Viśvāvasu . .		7 Āśvina .
3632	453	588			530-31	40 Parābhava . .		...
3633	454	589			531-32	41 Plavaṅga . .		...
3634	455	590			*532-33	42 Kilaka . .		3 Jyēshṭha .
3635	456	591			533-34	43 Saumya . .		...
3636	457	592			534-35	44 Sādhāraṇa . .		12 Phālguna .
3637	458	593			535-36	45 Virōdhakṛit . .		...
3638	459	594			*536-37	46 Paridhāvin . .		...
3639	460	595			537-38	47 Pramādin . .		8 Kārttika .
3640	461	596			538-39	48 Ānanda . .		...
3641	462	597			539-40	49 Rākshasa . .		...
3642	463	598			*540-41	50 Anala . .		5 Śrāvapa .
3643	464	599			541-42	51 Piṅgala . .		...
3644	465	600			542-43	52 Kālayukta . .		...
3645	466	601			543-44	53 Siddhārthin . .		1 Chaitra .

LXXVI—Contd.

I Arya Siddhanta, mean system.

COMMENCEMENT OF THE						Kali year.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	$a$ (here = $t$ , the index of the tithi).	
13	14	17	19	20	23	1
		H. M. S.				
21 Mar. (80) . .	5 Thur. .	10 10 0	17 Mar. (76) .	1 Sun. .	66-6044	3621
20 Mar. (80) . .	6 Fri. .	16 22 30	6 Mar. (66) .	6 Fri. .	280-9797	3622
20 Mar. (79) . .	0 Sat. .	22 35 0	23 Feb. (54) .	3 Tues. .	156-0631	3623
21 Mar. (80) . .	2 Mon. .	4 47 30	14 Mar. (73) .	2 Mon. .	191-3027	3624
21 Mar. (80) . .	3 Tues. .	11 0 0	3 Mar. (62) .	6 Fri. .	66-9860	3625
20 Mar. (80) . .	4 Wed. .	17 12 30	21 Feb. (52) .	4 Wed. .	281-3013	3626
20 Mar. (79) . .	5 Thur. .	23 25 0	11 Mar. (70) .	3 Tues. .	315-9409	3627
21 Mar. (80) . .	0 Sat. .	5 37 30	28 Feb. (59) .	0 Sat. .	191-6243	3628
21 Mar. (80) . .	1 Sun. .	11 50 0	19 Mar. (78) .	6 Fri. .	226-2640	3629
20 Mar. (80) . .	2 Mon. .	18 2 30	7 Mar. (67) .	3 Tues. .	101-9473	3630
21 Mar. (80) . .	4 Wed. .	0 15 0	25 Feb. (56) .	1 Sun. .	316-2626	3631
21 Mar. (80) . .	5 Thur. .	6 27 30	15 Mar. (74) .	6 Fri. .	12-2703	3632
21 Mar. (80) . .	6 Fri. .	12 40 0	5 Mar. (64) .	4 Wed. .	226-5856	3633
20 Mar. (80) . .	0 Sat. .	18 52 30	22 Feb. (53) .	1 Sun. .	102-2690	3634
21 Mar. (80) . .	2 Mon. .	1 5 0	12 Mar. (71) .	0 Sat. .	136-9086	3635
21 Mar. (80) . .	3 Tues. .	7 17 30	1 Mar. (60) .	4 Wed. .	12-5920	3636
21 Mar. (80) . .	4 Wed. .	13 30 0	20 Mar. (79) .	3 Tues. .	47-2316	3637
20 Mar. (80) . .	5 Thur. .	19 42 30	9 Mar. (69) .	1 Sun. .	261-5469	3638
21 Mar. (80) . .	0 Sat. .	1 55 0	26 Feb. (57) .	5 Thur. .	137-2303	3639
21 Mar. (80) . .	1 Sun. .	8 7 30	17 Mar. (76) .	4 Wed. .	171-8699	3640
21 Mar. (80) . .	2 Mon. .	14 20 0	6 Mar. (65) .	1 Sun. .	47-5533	3641
20 Mar. (80) . .	3 Tues. .	20 32 30	24 Feb. (55) .	6 Fri. .	261-8686	3642
21 Mar. (80) . .	5 Thur. .	2 45 0	14 Mar. (73) .	5 Thur. .	296-5082	3643
21 Mar. (80) . .	6 Fri. .	8 57 30	3 Mar. (62) .	2 Mon. .	172-1916	3644
21 Mar. (80) . .	0 Sat. .	15 10 0	20 Feb. (51) .	6 Fri. .	47-8749	3645

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.  108030
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3646	467	602			*544-45	54 Raudra . . .		...
3647	468	603			545-46	55 Durmati . . .		10 Pausha .
3648	469	604			546-47	56 Dundubhi . . .		...
3649	470	605			547-48	57 Rudhirōdgārin . . .		...
3650	471	606			*548-49	58 Raktāksha . . .		6 Bhādrapada
3651	472	607			549-50	59 Krōdhana . . .		...
3652	473	608			550-51	60 Kshaya . . .		...
3653	474	609			551-52	1 Prabhava . . .		3 Jyēshṭha .
3654	475	610			*552-53	2 Vibhava . . .		...
3655	476	611			553-54	3 Sukla . . .		11 Māgha .
3656	477	612			554-55	4 Pramōda . . .		...
3657	478	613			555-56	5 Prajāpati . . .		...
3658	479	614			*556-57	6 Aṅgiras . . .		8 Kārttika .
3659	480	615			557-58	7 Śrīmukha . . .		...
3660	481	616			558-59	8 Bhāva . . .		...
3661	482	617			559-60	9 Yuvan . . .		4 Āshāḍha .
3662	483	618			*560-61	10 Dhātri . . .		...
3663	484	619			561-62	11 Isvara . . .		...
3664	485	620			562-63	12 Bahudhānya . . .		1 Chaitra .
3665	486	621			563-64	13 Pramāthint† . . .		...
3666	487	622			*564-65	15 Vṛisha . . .		10 Pausha .
3667	488	623			565-66	16 Chitrabhānu . . .		...
3668	489	624			566-67	17 Subhānu . . .		...
3669	490	625			567-68	18 Tāraṇa . . .		6 Bhādrapada.
3670	491	626			*568-69	19 Pārthiva . . .		...

† By I Ārya Siddhānta mean system 14 Vikrama was expunged, and A.D. 564-65 corresponded to 15 Vṛisha. By the same authority true system A.D. 564-65 corresponded to 14 Vikrama, and 15 Vṛisha was expunged. A.D. 565-66 was 16 Chitrabhānu by both systems.

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mēśha-samkrānti.	Day and month, A.D.	Week-day.	a (here = t, the index of the tithi).	
13	14	17	19	20	23	
		H. M. S.				
20 Mar. (80) . .	1 Sun. .	21 22 30	10 Mar. (70) . .	5 Thur. .	82-5145	3646
21 Mar. (80) . .	3 Tues. .	3 35 0	28 Feb. (59) . .	3 Tues. .	296-8298	3647
21 Mar. (80) . .	4 Wed. .	9 47 30	19 Mar. (78) . .	2 Mon. .	331-4694	3648
21 Mar. (80) . .	5 Thur. .	16 0 0	8 Mar. (07) . .	6 Fri. .	207-1528	3649
20 Mar. (80) . .	6 Fri. .	22 12 30	25 Feb. (56) . .	3 Tues. .	82-8361	3650
21 Mar. (80) . .	1 Sun. .	4 25 0	15 Mar. (74) . .	2 Mon. .	117-4757	3651
21 Mar. (80) . .	2 Mon. .	10 37 30	5 Mar. (64) . .	0 Sat. .	331-7910	3652
21 Mar. (80) . .	3 Tues. .	16 50 0	22 Feb. (53) . .	4 Wed. .	207-4744	3653
20 Mar. (80) . .	4 Wed. .	23 2 30	12 Mar. (72) . .	3 Tues. .	242-1140	3654
21 Mar. (80) . .	6 Fri. .	5 15 0	1 Mar. (60) . .	0 Sat. .	117-7974	3655
21 <sup>st</sup> Mar. (80) . .	0 Sat. .	11 27 30	20 Mar. (79) . .	6 Fri. .	152-4370	3656
21 Mar. (80) . .	1 Sun. .	17 40 0	9 Mar. (68) . .	3 Tues. .	28-1204	3657
20 Mar. (80) . .	2 Mon. .	23 52 30	27 Feb. (58) . .	1 Sun. .	242-4357	3658
21 Mar. (80) . .	4 Wed. .	6 5 0	17 Mar. (76) . .	0 Sat. .	277-0753	3659
21 Mar. (80) . .	5 Thur. .	12 17 30	6 Mar. (65) . .	4 Wed. .	152-7587	3660
21 Mar. (80) . .	6 Fri. .	18 30 0	23 Feb. (54) . .	1 Sun. .	28-4421	3661
21 Mar. (81) . .	1 Sun. .	0 42 30	13 Mar. (73) . .	0 Sat. .	63-0817	3662
21 Mar. (80) . .	2 Mon. .	6 55 0	3 Mar. (62) . .	5 Thur. .	277-3970	3663
21 Mar. (80) . .	3 Tues. .	13 7 30	20 Feb. (51) . .	2 Mon. .	153-0803	3664
21 Mar. (80) . .	4 Wed. .	19 20 0	11 Mar. (70) . .	1 Sun. .	187-7200	3665
21 Mar. (81) . .	6 Fri. .	1 32 30	28 Feb. (59) . .	5 Thur. .	63-4034	3666
21 Mar. (80) . .	0 Sat. .	7 45 0	18 Mar. (77) . .	4 Wed. .	98-0430	3667
21 Mar. (80) . .	1 Sun. .	13 57 30	8 Mar. (67) . .	2 Mon. .	312-3582	3668
21 Mar. (80) . .	2 Mon. .	20 10 0	25 Feb. (56) . .	6 Fri. .	189-0416	3669
21 Mar (81) . .	4 Wed. .	2 22 30	15 Mar. (75) . .	5 Thur. .	222-6813	3670

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3671	492	627			569-70	20 Vyaya . . .		...
3672	493	628			570-71	21 Sarvajit . . .		3 Jyēshṭha .
3673	494	629			571-72	22 Sarvadhārin . . .		...
3674	495	630			*572-73	23 Virōdhin . . .		11 Māgha .
3675	496	631			573-74	24 Vikṛita . . .		...
3676	497	632			574-75	25 Khara . . .		...
3677	498	633			575-76	26 Nandana . . .		8 Kārttika .
3678	499	634			*576-77	27 Vijaya . . .		...
3679	500	635			577-78	28 Jaya . . .		...
3680	501	636			578-79	29 Manmatha . . .		4 Āshāḍha .
3681	502	637			579-80	30 Durmukha . . .		... *
3682	503	638			*580-81	31 Hēmalamba . . .		...
3683	504	639			581-82	32 Vilamba . . .		1 Chaitra .
3684	505	640			582-83	33 Vikārin . . .		...
3685	506	641			583-84	34 Śārvarin . . .		9 Mārgaśīra .
3686	507	642			*584-85	35 Plava . . .		...
3687	508	643			585-86	36 Śubhakṛit . . .		...
3688	509	644			586-87	37 Śōbhana . . .		6 Bhādrapada.
3689	510	645			587-88	38 Krōdhin . . .		...
3690	511	646			*588-89	39 Viśvāvasu . . .		...
3691	512	647			589-90	40 Parābhava . . .		2 Vaiśākha .
3692	513	648			590-91	41 Plavaṅga . . .		...
3693	514	649			591-92	42 Kilaka . . .		11 Māgha .
3694	515	650			*592-93	43 Saumya . . .		...
3695	516	651			593-94	44 Sādhāraṇa . . .		...

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṅkrānti.	Day and month, A.D.	Week-day.	$u$ (here = $t$ , the index of the tithi).	
13	14	17	19	20	23	1
21 Mar. (80) . . .	5 Thur. . .	H. M. S. 8 35 0	4 Mar. (63) . . .	2 Mon. . .	98-3646	3671
21 Mar. (80) . . .	6 Fri. . .	14 47 30	22 Feb. (53) . . .	0 Sat. . .	312-6799	3672
21 Mar. (80) . . .	0 Sat. . .	21 0 0	12 Mar. (71) . . .	5 Thur. . .	8-6876	3673
21 Mar. (81) . . .	2 Mon. . .	3 12 30	1 Mar. (61) . . .	3 Tues. . .	223-0020	3674
21 Mar. (80) . . .	3 Tues. . .	9 25 0	20 Mar. (79) . . .	2 Mon. . .	257-6425	3675
21 Mar. (80) . . .	4 Wed. . .	15 37 30	9 Mar. (68) . . .	6 Fri. . .	133-3259	3676
21 Mar. (80) . . .	5 Thur. . .	21 50 0	26 Feb. (57) . . .	3 Tues. . .	9-0092	3677
21 Mar. (81) . . .	0 Sat. . .	4 2 30	18 Mar. (76) . . .	2 Mon. . .	43-6488	3678
21 Mar. (80) . . .	1 Sun. . .	10 15 0	6 Mar. (65) . . .	0 Sat. . .	257-9641	3679
21 Mar. (80) . . .	2 Mon. . .	16 27 30	23 Feb. (54) . . .	4 Wed. . .	133-6476	3680
21 Mar. (80) . . .	3 Tues. . .	22 40 0	14 Mar. (73) . . .	3 Tues. . .	168-2871	3681
21 Mar. (81) . . .	5 Thur. . .	4 52 30	2 Mar. (62) . . .	0 Sat. . .	43-9705	3682
21 Mar. (80) . . .	6 Fri. . .	11 5 0	20 Feb. (51) . . .	5 Thur. . .	258-2857	3683
21 Mar. (80) . . .	0 Sat. . .	17 17 30	11 Mar. (70) . . .	4 Wed. . .	292-9254	3684
21 Mar. (80) . . .	1 Sun. . .	23 30 0	28 Feb. (59) . . .	1 Sun. . .	168-6087	3685
21 Mar. (81) . . .	3 Tues. . .	5 42 30	18 Mar. (78) . . .	0 Sat. . .	203-2484	3686
21 Mar. (80) . . .	4 Wed. . .	11 55 0	7 Mar. (66) . . .	4 Wed. . .	78-9317	3687
21 Mar. (80) . . .	5 Thur. . .	18 7 30	25 Feb. (56) . . .	2 Mon. . .	293-2470	3688
22 Mar. (81) . . .	0 Sat. . .	0 20 0	16 Mar. (75) . . .	1 Sun. . .	327-8867	3689
21 Mar. (81) . . .	1 Sun. . .	6 32 30	4 Mar. (64) . . .	5 Thur. . .	203-5700	3690
21 Mar. (80) . . .	2 Mon. . .	12 45 0	21 Feb. (52) . . .	2 Mon. . .	79-2534	3691
21 Mar. (80) . . .	3 Tues. . .	18 57 30	12 Mar. (71) . . .	1 Sun. . .	113-8930	3692
22 Mar. (81) . . .	5 Thur. . .	1 10 0	2 Mar. (61) . . .	6 Fri. . .	328-2083	3693
21 Mar. (81) . . .	6 Fri. . .	7 22 30	19 Mar. (79) . . .	4 Wed. . .	24-2160	3694
21 Mar. (80) . . .	0 Sat. . .	13 35 0	9 Mar. (68) . . .	2 Mon. . .	238-5313	3695

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitradī Vikrama.	Mēshādī solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3696	517	652	1		594-95	45 Virōdhakṛit . .		7 Āśvina
3697	518	653	2		595-96	46 Paridhāvin . .		...
3698	519	654	3		*596-97	47 Pramādin . .		...
3699	520	655	4		597-98	48 Ānanda . .		4 Āshādha .
3700	521	656	5		598-99	49 Rākshasa . .		...
3701	522	657	6		599-600	50 Anala . .		12 Phālguna .
3702	523	658	7		*600-01	51 Pīngala . .		...
3703	524	659	8		601-02	52 Kālayukta . .		...
3704	525	660	9		602-03	53 Siddhārthin . .		9 Mārgasīra .
3705	526	661	10		603-04	54 Raudra . .		...
3706	527	662	11		*604-05	55 Durmati . .		...
3707	528	663	12		605-06	56 Dundubhi . .		6 Bhādrapada.
3708	529	664	13		606-07	57 Rudhirōdgārin. .		...
3709	530	665	14		607-08	58 Raktāksha . .		...
3710	531	666	15		*608-09	59 Krōdhana . .		2 Vaiśākha .
3711	532	667	16		609-10	60 Kshaya . .		...
3712	533	668	17		610-11	1 Prabhava . .		11 Māgha .
3713	534	669	18		611-12	2 Vibhava . .		...
3714	535	670	19		*612-13	3 Śukla . .		...
3715	536	671	20		613-14	4 Pramōda . .		7 Āśvina .
3716	537	672	21		614-15	5 Prajūpati . .		...
3717	538	673	22		615-16	6 Aṅgiras . .		...
3718	539	674	23		*616-17	7 Śrīmukha . .		4 Āshādha
3719	540	675	24		617-18	8 Bhāva . .		...
3720	541	676	25		618-19	9 Yuva . .		12 Phālguna

LXXVI—Contd.

1 Arya Siddhanta, mean system.

COMMENCEMENT OF THE						Kali year.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	a (here = t, the index of the tithi).	
13	14	17	19	20	23	1
		H. M. S.				
21 Mar. (80) . .	1 Sun. .	19 47 30	26 Feb. (57) .	6 Fri. .	114-2147	3696
22 Mar. (81) . .	3 Tues. .	2 0 0	17 Mar. (76) .	5 Thur. .	148-8543	3697
21 Mar. (81) . .	4 Wed. .	8 12 30	5 Mar. (65) .	2 Mon. .	24-5377	3698
21 Mar. (80) . .	5 Thur. .	14 25 0	23 Feb. (54) .	0 Sat. .	238-8530	3699
21 Mar. (80) . .	6 Fri. .	20 37 30	14 Mar. (73) .	6 Fri. .	273-4926	3700
22 Mar. (81) . .	1 Sun. .	2 50 0	3 Mar. (62) .	3 Tues. .	149-1760	3701
21 Mar. (81) . .	2 Mon. .	9 2 30	21 Mar. (81) .	2 Mon. .	183-8156	3702
21 Mar. (80) . .	3 Tues. .	15 15 0	10 Mar. (69) .	6 Fri. .	59-4990	3703
21 Mar. (80) . .	4 Wed. .	21 27 30	28 Feb. (59) .	4 Wed. .	273-8142	3704
22 Mar. (81) . .	6 Fri. .	3 40 0	19 Mar. (78) .	3 Tues. .	308-4539	3705
21 Mar. (81) . .	0 Sat. .	9 52 30	7 Mar. (67) .	0 Sat. .	184-1373	3706
21 Mar. (80) . .	1 Sun. .	16 5 0	24 Feb. (55) .	4 Wed. .	59-8207	3707
21 Mar. (80) . .	2 Mon. .	22 17 30	15 Mar. (74) .	3 Tues. .	94-4603	3708
22 Mar. (81) . .	4 Wed. .	4 30 0	5 Mar. (64) .	1 Sun. .	308-7756	3709
21 Mar. (81) . .	5 Thur. .	10 42 30	22 Feb. (53) .	5 Thur. .	184-4580	3710
21 Mar. (80) . .	6 Fri. .	16 55 0	12 Mar. (71) .	4 Wed. .	219-0985	3711
21 Mar. (80) . .	0 Sat. .	23 7 30	1 Mar. (60) .	1 Sun. .	94-7819	3712
22 Mar. (81) . .	2 Mon. .	5 20 0	20 Mar. (79) .	0 Sat. .	129-4215	3713
21 Mar. (81) . .	3 Tues. .	11 32 30	8 Mar. (68) .	4 Wed. .	5-1049	3714
21 Mar. (80) . .	4 Wed. .	17 45 0	26 Feb. (57) .	2 Mon. .	219-4201	3715
21 Mar. (80) . .	5 Thur. .	23 57 30	17 Mar. (76) .	1 Sun. .	254-0597	3716
22 Mar. (81) . .	0 Sat. .	6 10 0	6 Mar. (95) .	5 Thur. .	129-7432	3717
21 Mar. (81) . .	1 Sun. .	12 22 30	23 Feb. (54) .	2 Mon. .	5-4266	3718
21 Mar. (80) . .	2 Mon. .	18 35 0	13 Mar. (72) .	1 Sun. .	40-0661	3719
22 Mar. (81) . .	4 Wed. .	0 47 30	3 Mar. (92) .	6 Fri. .	254-3814	3720



TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3721	542	677	26		619-20	10 Dhātṛi . . .		...
3722	543	678	27		*620-21	11 Īsvara . . .		...
3723	544	679	28		621-22	12 Bahudhānya . . .		9 Mārgasīra .
3724	545	680	29		622-23	13 Pramāthin . . .		...
3725	546	681	30		623-24	14 Vikrama . . .		...
3726	547	682	31		*624-25	15 Vṛisha . . .		5 Śrāvaṇa .
3727	548	683	32		625-26	16 Chitrabhānu . . .		...
3728	549	684	33		626-27	17 Subhānu . . .		...
3729	550	685	34		627-28	18 Tāraṇa . . .		2 Vaiśākha .
3730	551	686	35		*628-29	19 Pārthiva . . .		...
3731	552	687	36		629-30	20 Vyaya . . .		10 Pausa .
3732	553	688	37		630-31	21 Sarvajit . . .		...
3733	554	689	38		631-32	22 Sarvadhārin . . .		...
3734	555	690	39		*632-33	23 Virōdhin . . .		7 Āsvina .
3735	556	691	40		633-34	24 Vikṛita . . .		...
3736	557	692	41		634-35	25 Khara . . .		...
3737	558	693	42		635-36	26 Nandana . . .		3 Jyēshtha .
3738	559	694	43		*636-37	27 Vijaya . . .		...
3739	560	695	44		637-38	28 Jaya . . .		12 Phālguna .
3740	561	696	45		638-39	29 Manmatha . . .		...
3741	562	697	46		639-40	30 Durmukha . . .		...
3742	563	698	47		*640-41	31 Hēmalamba . . .		9 Mārgasīra .
3743	564	699	48		641-42	32 Vilamba . . .		...
3744	565	700	49		642-43	33 Vikārin . . .		...
3745	566	701	50		643-44	34 Śārvarin . . .		5 Śrāvaṇa .

LXXVI—Contd.

I Ārya Siddhānta, mean system

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	$a$ (here $-t$ , the index of the tithi).	
13	14	17	19	20	23	1
		H. M. S.				
22 Mar. (81) . .	5 Thur. .	7 0 0	22 Mar. (81) . .	5 Thur. .	289-0209	3721
21 Mar. (81) . .	6 Fri. .	13 12 30	10 Mar. (70) . .	2 Mon. .	164-7044	3722
21 Mar. (80) . .	0 Sat. .	19 25 0	27 Feb. (58) . .	6 Fri. .	40-3877	3723 <sup>1</sup>
22 Mar. (81) . .	2 Mon. .	1 37 30	18 Mar. (77) . .	5 Thur. .	75-0274	3724
22 Mar. (81) . .	3 Tues. .	7 50 0	8 Mar. (67) . .	3 Tues. .	289-3427	3725
21 Mar. (81) . .	4 Wed. .	14 2 30	25 Feb. (56) . .	0 Sat. .	165-0261	3726
21 Mar. (80) . .	5 Thur. .	20 15 0	15 Mar. (74) . .	6 Fri. .	199-6657	3727
22 Mar. (81) . .	0 Sat. .	2 27 30	4 Mar. (63) . .	3 Tues. .	75-3491	3728
22 Mar. (81) . .	1 Sun. .	8 40 0	22 Feb. (53) . .	1 Sun. .	289-6643	3729
21 Mar. (81) . .	2 Mon. .	14 52 30	12 Mar. (72) . .	0 Sat. .	324-3039	3730
21 Mar. (80) . .	3 Tues. .	21 5 0	1 Mar. (60) . .	4 Wed. .	199-9873	3731
22 Mar. (81) . .	5 Thur. .	3 17 30	20 Mar. (79) . .	3 Tues. .	234-6269	3732
22 Mar. (81) . .	6 Fri. .	9 30 0	9 Mar. (68) . .	0 Sat. .	110-3103	3733
21 Mar. (81) . .	0 Sat. .	15 42 30	27 Feb. (58) . .	5 Thur. .	324-6256	3734
21 Mar. (80) . .	1 Sun. .	21 55 0	16 Mar. (75) . .	3 Tues. .	20-6333	3735
22 Mar. (81) . .	3 Tues. .	4 7 30	6 Mar. (65) . .	1 Sun. .	234-9486	3736
22 Mar. (81) . .	4 Wed. .	10 20 0	23 Feb. (54) . .	5 Thur. .	110-6320	3737
21 Mar. (81) . .	5 Thur. .	16 32 30	13 Mar. (73) . .	4 Wed. .	145-2716	3738
21 Mar. (80) . .	6 Fri. .	22 45 0	2 Mar. (61) . .	1 Sun. .	20-9550	3739
22 Mar. (81) . .	1 Sun. .	4 57 30	21 Mar. (80) . .	0 Sat. .	55-5916	3740
22 Mar. (81) . .	2 Mon. .	11 10 0	11 Mar. (70) . .	5 Thur. .	269-9099	3741
21 Mar. (81) . .	3 Tues. .	17 22 30	28 Feb. (59) . .	2 Mon. .	145-5933	3742
21 Mar. (80) . .	4 Wed. .	23 35 0	18 Mar. (77) . .	1 Sun. .	180-2329	3743
22 Mar. (81) . .	6 Fri. .	5 47 30	7 Mar. (66) . .	5 Thur. .	55-9163	3744
22 Mar. (81) . .	0 Sat. .	12 0 0	25 Feb. (56) . .	3 Tues. .	270-2316	3745

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali	Saka.	Chaitrādi Vikrama.	Meśhādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3746	567	702	51		*644-45	35 Plava . . .		...
3747	568	703	52		645-46	36 Subhakṛit . . .		...
3748	569	704	53		646-47	37 Sōbhana . . .		2 Vaiśākha .
3749	570	705	54		647-48	38 Krōdhin . . .		...
3750	571	706	55		*648-49	39 Viśvāvasu . . .		10 Pausha .
3751	572	707	56		649-50	40 Parābhava† . . .		...
3752	573	708	57		650-51	42 Kīlaka . . .		...
3753	574	709	58		651-52	43 Saumya . . .		7 Āśvina .
3754	575	710	59		*652-53	44 Sūdhāranya . . .		...
3755	576	711	60		653-54	45 Virōdhakṛit . . .		...
3756	577	712	61		654-55	46 Paridhāvin . . .		3 Jyēshṭha .
3757	578	713	62		655-56	47 Pramādin . . .		...
3758	579	714	63		*656-57	48 Ānanda . . .		12 Phālguna .
3759	580	715	64		657-58	49 Rākshasa . . .		...
3760	581	716	65		658-59	50 Anala . . .		...
3761	582	717	66		659-60	51 Piṅgala . . .		8 Kārttika .
3762	583	718	67		*660-61	52 Kālayukta . . .		...
3763	584	719	68		661-62	53 Siddhārthin . . .		...
3764	585	720	69		662-63	54 Raudra . . .		5 Śrāvaṇa .
3765	586	721	70		663-64	55 Durmati . . .		...
3766	587	722	71		*664-65	56 Dundubhi . . .		...
3767	588	723	72		665-66	57 Rudhirōdgārīn . . .		1 Chaitra .
3768	589	724	73		666-67	58 Raktāksha . . .		...
3769	590	725	74		667-68	59 Krōdhana . . .		10 Pausha .
3770	591	726	75		*668-69	60 Kshaya . . .		...

† By the mean system 41 Plavaṅga was expunged, as also by the true system.

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	<i>a</i> (here— <i>t</i> , the index of the tithi).	
13	14	17	19	20	23	1
		H. M. S.				
21 Mar. (81) . .	1 Sun. .	18 12 30	15 Mar. (75) . .	2 Mon. .	304-8711	3746
22 Mar. (81) . .	3 Tues. .	0 25 0	4 Mar. (63) . .	6 Fri. .	180-5545	3747
22 Mar. (81) . .	4 Wed. .	6 37 30	21 Feb. (52) . .	3 Tues. .	56-2378	3748
22 Mar. (81) . .	5 Thur. .	12 50 0	12 Mar. (71) . .	2 Mon. .	90-8775	3749
21 Mar. (81) . .	6 Fri. .	19 2 30	1 Mar. (61) . .	0 Sat. .	305-1927	3750
22 Mar. (81) . .	1 Sun. .	1 15 0	19 Mar. (78) . .	5 Thur. .	1-2005	3751
22 Mar. (81) . .	2 Mon. .	7 27 30	9 Mar. (68) . .	3 Tues. .	215-5157	3752
22 Mar. (81) . .	3 Tues. .	13 40 0	26 Feb. (57) . .	0 Sat. .	91-1991	3753
21 Mar. (81) . .	4 Wed. .	19 52 30	16 Mar. (76) . .	6 Fri. .	125-8387	3754
22 Mar. (81) . .	6 Fri. .	2 5 0	5 Mar. (64) . .	3 Tues. .	1-5221	3755
22 Mar. (81) . .	0 Sat. .	8 17 30	23 Feb. (54) . .	1 Sun. .	215-8374	3756
22 Mar. (81) . .	1 Sun. .	14 30 0	14 Mar. (73) . .	0 Sat. .	250-4770	3757
21 Mar. (81) . .	2 Mon. .	20 42 30	2 Mar. (62) . .	4 Wed. .	126-1604	3758
22 Mar. (81) . .	4 Wed. .	2 55 0	21 Mar. (80) . .	3 Tues. .	160-8000	3759
22 Mar. (81) . .	5 Thur. .	9 7 30	10 Mar. (69) . .	0 Sat. .	36-4834	3760
22 Mar. (81) . .	6 Fri. .	15 20 0	28 Feb. (59) . .	5 Thur. .	250-7987	3761
21 Mar. (81) . .	0 Sat. .	21 32 30	18 Mar. (78) . .	4 Wed. .	285-4383	3762
22 Mar. (81) . .	2 Mon. .	3 45 0	7 Mar. (66) . .	1 Sun. .	161-1217	3763
22 Mar. (81) . .	3 Tues. .	9 57 30	24 Feb. (55) . .	5 Thur. .	36-8051	3764
22 Mar. (81) . .	4 Wed. .	16 10 0	15 Mar. (74) . .	4 Wed. .	71-4447	3765
21 Mar. (81) . .	5 Thur. .	22 22 30	4 Mar. (64) . .	2 Mon. .	285-7599	3766
22 Mar. (81) . .	0 Sat. .	4 35 0	21 Feb. (52) . .	6 Fri. .	161-4433	3767
22 Mar. (81) . .	1 Sun. .	10 47 30	12 Mar. (71) . .	5 Thur. .	196-0830	3768
22 Mar. (81) . .	2 Mon. .	17 0 0	1 Mar. (60) . .	2 Mon. .	71-7663	3769
21 Mar. (81) . .	3 Tues. .	23 12 30	18 Mar. (78) . .	1 Sun. .	106-4060	3770

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Meshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		Mean Intercalated (adhika) lunar month.
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3771	592	727	76		669-70	1 Prabhava . . .		...
3772	593	728	77		670-71	2 Vibhava . . .		6 Bhādrapada
3773	594	729	78		671-72	3 Śukla . . .		...
3774	595	730	79		*672-73	4 Pramōda . . .		...
3775	596	731	80		673-74	5 Prajāpati . . .		3 Jyēshṭha .
3776	597	732	81		674-75	6 Aṅgiras . . .		...
3777	598	733	82		675-76	7 Śrīmukha . . .		11 Magha .
3778	599	734	83		*676-77	8 Bhāva . . .		...
3779	600	735	84		677-78	9 Yuvan . . .		...
3780	601	736	85		678-79	10 Dhātṛi . . .		8 Kārttika .
3781	602	737	86		679-80	11 Īśvara . . .		...
3782	603	738	87		*680-81	12 Bahudhānya . . .		...
3783	604	739	88		681-82	13 Pramāthīn . . .		5 Śrāvana .
3784	605	740	89		682-83	14 Vikrama . . .		...
3785	606	741	90		683-84	15 Vṛisha . . .		...
3786	607	742	91		*684-85	16 Chitrabhānu . . .		1 Chaitra .
3787	608	743	92		685-86	17 Subhānu . . .		...
3788	609	744	93		686-87	18 Tāraṇa . . .		10 Pausa .
3789	610	745	94		687-88	19 Pārthiva . . .		...
3790	611	746	95		*688-89	20 Vyaya . . .		...
3791	612	747	96		689-90	21 Sarvajit . . .		6 Bhādrapada
3792	613	748	97		690-91	22 Sarvadhārin . . .		...
3793	614	749	98		691-92	23 Virōdhin . . .		...
3794	615	750	99		*692-93	24 Vikṛita . . .		3 Jyēshṭha .
3795	616	751	100		693-94	25 Khara . . .		...

LXXVI—Contd.

1 Arya Siddhānta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali year.
Day and month. A.D.	Week-day.	Time of mean Mēsha- sankrānti.	Day and month. A.D.	Week-day.	<i>a</i> (here= <i>t</i> , the index of the tithi).	
13	14	17	19	20	23	1
		H. M. S.				
22 Mar. (81) . .	5 Thur. . .	5 25 0	9 Mar. (68) . .	6 Fri. . .	320-7213	3771
22 Mar. (81) . .	6 Fri. . .	11 37 30	26 Feb. (57) . .	3 Tues. . .	196-4046	3772
22 Mar. (81) . .	0 Sat. . .	17 50 0	17 Mar. (76) . .	2 Mon. . .	231-0442	3773
22 Mar. (82) . .	2 Mon. . .	0 2 30	5 Mar. (65) . .	6 Fri. . .	106-7276	3774
22 Mar. (81) . .	3 Tues. . .	6 15 0	23 Feb. (54) . .	4 Wed. . .	321-0429	3775
22 Mar. (81) . .	4 Wed. . .	12 27 30	13 Mar. (72) . .	2 Mon. . .	17-0506	3776
22 Mar. (81) . .	5 Thur. . .	18 40 0	3 Mar. (62) . .	0 Sat. . .	231-3658	3777
22 Mar. (82) . .	0 Sat. . .	0 52 30	21 Mar. (81) . .	6 Fri. . .	266-0054	3778
22 Mar. (81) . .	1 Sun. . .	7 5 0	10 Mar. (69) . .	3 Tues. . .	141-6888	3779
22 Mar. (81) . .	2 Mon. . .	13 17 30	27 Feb. (58) . .	0 Sat. . .	17-3723	3780
22 Mar. (81) . .	3 Tues. . .	19 30 0	18 Mar. (77) . .	6 Fri. . .	52-0118	3781
22 Mar. (82) . .	5 Thur. . .	1 42 30	7 Mar. (67) . .	4 Wed. . .	266-3271	3782
22 Mar. (81) . .	6 Fri. . .	7 55 0	24 Feb. (55) . .	1 Sun. . .	142-0105	3783
22 Mar. (81) . .	0 Sat. . .	14 7 30	15 Mar. (74) . .	0 Sat. . .	176-6501	3784
22 Mar. (81) . .	1 Sun. . .	20 20 0	4 Mar. (63) . .	4 Wed. . .	52-3331	3785
22 Mar. (82) . .	3 Tues. . .	2 32 30	22 Feb. (53) . .	2 Mon. . .	266-6187	3786
22 Mar. (81) . .	4 Wed. . .	8 45 0	12 Mar. (71) . .	1 Sun. . .	301-2884	3787
22 Mar (81) . .	5 Thur. . .	14 57 30	1 Mar. (60) . .	5 Thur. . .	176-9717	3788
22 Mar. (81) . .	6 Fri. . .	21 10 0	20 Mar. (75) . .	4 Wed. . .	211-6111	3789
22 Mar. (82) . .	1 Sun. . .	3 22 30	8 Mar. (68) . .	1 Sun. . .	87-2948	3790
22 Mar. (81) . .	2 Mon. . .	9 35 0	26 Feb. (57) . .	6 Fri. . .	301-6100	3791
22 Mar. (81) . .	3 Tues. . .	15 47 30	16 Mar. (75) . .	4 Wed. . .	9907-6177†	3792
22 Mar. (81) . .	4 Wed. . .	22 0 0	6 Mar. (65) . .	2 Mon. . .	211-9330	3793
22 Mar. (82) . .	6 Fri. . .	4 12 30	23 Feb. (54) . .	6 Fri. . .	87-6164	3794
22 Mar. (81) . .	0 Sat. . .	10 25 0	13 Mar. (72) . .	5 Thur. . .	122-2560	3795

† As a mean tithi Chaitra Sukla 1 was expunged. The civil day corresponding to it, i.e., the first day of the mean luni-solar year, was as given in cols. 19, 20.

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Meshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3796	617	752	101		694-95	26 Nandana . . .		11 Māgha .
3797	618	753	102		695-96	27 Vijaya . . .		...
3798	619	754	103		*696-97	28 Jaya . . .		...
3799	620	755	104		697-98	29 Manmatha . . .		8 Kārttika .
3800	621	756	105		698-99	30 Durmukha . . .		...
3801	622	757	106		699-700	31 Hēmalamba . . .		...
3802	623	758	107		*700-01	32 Vilamba . . .		4 Āshāḍha .
3803	624	759	108		701-02	33 Vikārin . . .		...
3804	625	760	109		702-03	34 Śārvarin . . .		...
3805	626	761	110		703-04	35 Plava . . .		1 Chaitra .
3806	627	762	111		*704-05	36 Śubhakṛit . . .		...
3807	628	763	112		705-06	37 Śōbhana . . .		9 Mārgasīra .
3808	629	764	113		706-07	38 Krōdhin . . .		...
3809	630	765	114		707-08	39 Viśvāvasu . . .		...
3810	631	766	115		*708-09	40 Parābhava . . .		6 Bhādrapada
3811	632	767	116		709-10	41 Plavaṅga . . .		...
3812	633	768	117		710-11	42 Kīlaka . . .		...
3813	634	769	118		711-12	43 Saumya . . .		2 Vaisākha .
3814	635	770	119		*712-13	44 Sūdhārāṇa . . .		...
3815	636	771	120		713-14	45 Virōdhakṛit . . .		11 Māgha .
3816	637	772	121		714-15	46 Paridhāvin . . .		...
3817	638	773	122		715-16	47 Pramādin . . .		...
3818	639	774	123		*716-17	48 Ānanda . . .		8 Kārttika† .
3819	640	775	124		717-18	49 Rākshasa . . .		...
3820	641	776	125		718-19	50 Anala . . .		...

† By the "Indian Calendar" 7 Āśvina was intercalated but the case was a close one.

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

COMMENCEMENT OF THE							Kali year.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).				
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	<i>a</i> (here <i>t</i> , the index of the tithi).		
13	14	17	19	20	23	1	
		H. M. S.					
22 Mar. (81) . . .	1 Sun. . .	16 37 30	2 Mar. (61) . . .	2 Mon. . .	9997-9394†	3796	
22 Mar. (81) . . .	2 Mon. . .	22 50 0	21 Mar. (80) . . .	1 Sun. . .	32-5790	3797	
22 Mar. (82) . . .	4 Wed. . .	5 2 30	10 Mar. (70) . . .	6 Fri. . .	246-8943	3798	
22 Mar. (81) . . .	5 Thur. . .	11 16 0	27 Feb. (58) . . .	3 Tues. . .	122-5777	3799	
22 Mar. (81) . . .	6 Fri. . .	17 27 30	18 Mar. (77) . . .	2 Mon. . .	157-2173	3800	
22 Mar. (81) . . .	0 Sat. . .	23 40 0	7 Mar. (66) . . .	6 Fri. . .	32-9006	3801	
22 Mar. (82) . . .	2 Mon. . .	5 52 30	25 Feb. (56) . . .	4 Wed. . .	247-2159	3802	
22 Mar. (81) . . .	3 Tues. . .	12 5 0	15 Mar. (74) . . .	3 Tues. . .	281-8555	3803	
22 Mar. (81) . . .	4 Wed. . .	18 37 30	4 Mar. (63) . . .	0 Sat. . .	157-5389	3804	
23 Mar. (82) . . .	6 Fri. . .	0 30 0	21 Feb. (52) . . .	4 Wed. . .	33-2223	3805	
22 Mar. (82) . . .	0 Sat. . .	6 42 30	11 Mar. (71) . . .	3 Tues. . .	67-8619	3806	
22 Mar. (81) . . .	1 Sun. . .	12 55 0	1 Mar. (60) . . .	1 Sun. . .	282-1771	3807	
22 Mar. (81) . . .	2 Mon. . .	19 7 30	20 Mar. (79) . . .	0 Sat. . .	316-8168	3808	
23 Mar. (82) . . .	4 Wed. . .	1 20 0	9 Mar. (68) . . .	4 Wed. . .	192-5002	3809	
22 Mar. (82) . . .	5 Thur. . .	7 32 30	26 Feb. (57) . . .	1 Sun. . .	68-1835	3810	
22 Mar. (81) . . .	6 Fri. . .	13 45 0	16 Mar. (75) . . .	0 Sat. . .	102-8231	3811	
22 Mar. (81) . . .	0 Sat. . .	19 57 30	6 Mar. (65) ] . . .	5 Thur. . .	317-1384	3812	
23 Mar. (82) . . .	2 Mon. . .	2 10 0	23 Feb. (54) . . .	2 Mon. . .	192-8218	3813	
22 Mar. (82) . . .	3 Tues. . .	8 22 30	13 Mar. (73) . . .	1 Sun. . .	227-4614	3814	
22 Mar. (81) . . .	4 Wed. . .	14 35 0	2 Mar. (61) . . .	5 Thur. . .	103-1447	3815	
22 Mar. (81) . . .	5 Thur. . .	20 47 30	21 Mar. (80) . . .	4 Wed. . .	137-7843	3816	
23 Mar. (82) . . .	0 Sat. . .	3 0 0	10 Mar. (69) . . .	1 Sun. . .	13-4678	3817	
22 Mar. (82) . . .	1 Sun. . .	9 12 30	28 Feb. (59) . . .	6 Fri. . .	227-7831	3818	
22 Mar. (81) . . .	2 Mon. . .	15 25 0	18 Mar. (77) . . .	5 Thur. . .	262-4226	3819	
22 Mar. (81) . . .	3 Tues. . .	21 37 30	7 Mar. (66) . . .	2 Mon. . .	138-1060	3820	

As a mean tithi Chaitra Śukla 1 was suppressed. The civil day corresponding to it, i.e., the first day of the mean luni-solar year, was as given in cols. 19, 20.



TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Meshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	8	8a
3821	642	777	126		719-20	51 Piṅgala . . .		4 Āshādha .
3822	643	778	127		*720-21	52 Kālayukta . . .		...
3823	644	779	128		721-22	53 Siddhārthin . . .		...
3824	645	780	129		722-23	54 Raudra . . .		1 Chaitra .
3825	646	781	130		723-24	55 Durmati . . .		...
3826	647	782	131		*724-25	56 Dundubhi . . .		9 Mārgaśīra .
3827	648	783	132		725-26	57 Rudhirōdgarin . . .		...
3828	649	784	133		726-27	58 Raktāksha . . .		...
3829	650	785	134		727-28	59 Krōdhana . . .		6 Bhādrapada
3830	651	786	135		*728-29	60 Kshaya . . .		...
3831	652	787	136		729-30	1 Prabhava . . .		...
3832	653	788	137		730-31	2 Vibhava . . .		2 Vaiśākha .
3833	654	789	138		731-32	3 Śukla . . .		...
3834	655	790	139		*732-33	4 Pramōda . . .		11 Māgha .
3835	656	791	140		733-34	5 Prajāpati . . .		...
3836	657	792	141		734-35	6 Āngiras† . . .		...
3837	658	793	142		735-36	8 Bhāra . . .		7 Āśvina .
3838	659	794	143		*736-37	9 Yavan . . .		...
3839	660	795	144		737-38	10 Dhātṛi . . .		...
3840	661	796	145		738-39	11 Jvara . . .		4 Āshādha .
3841	662	797	146		739-40	12 Bahudhānya . . .		...
3842	663	798	147		*740-41	13 Pramāthin . . .		12 Phālguna .
3843	664	799	148		741-42	14 Vikrama . . .		...
3844	665	800	149		742-43	15 Vṛisha . . .		...
3845	666	801	150		743-44	16 Chitrabhānn . . .		9 Mārgaśīra .

† By the mean system, as well as by the true system, 7 Śrīmukha was expunged.

LXXVI—Contd.

1 Arya Siddhānta, mean system.

COMMENCEMENT OF THE							Kali year.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).				
Day and month, A.D.	Week-day.	Time of mean Mēṣa-samkrānti.	Day and month, A.D.	Week-day.	<i>a</i> (here <i>t</i> , the index of the tithi).		
13	14	17	19	20	23		
		H. M. S.				1	
23 Mar. (82) . . .	5 Thur. . .	3 50 0	24 Feb. (55) . . .	6 Fri. . .	13-7894	3821	
22 Mar. (82) . . .	6 Fri. . .	10 2 30	14 Mar. (74) . . .	5 Thur. . .	48-4290	3822	
22 Mar. (81) . . .	0 Sat. . .	16 15 0	4 Mar. (63) . . .	3 Tues. . .	262-7443	3823	
22 Mar. (81) . . .	1 Sun. . .	22 27 30	21 Feb. (52) . . .	0 Sat. . .	138-4276	3824	
23 Mar. (82) . . .	3 Tues. . .	4 40 0	12 Mar. (71) . . .	6 Fri. . .	173-0673	3825	
22 Mar. (82) . . .	4 Wed. . .	10 52 30	29 Feb. (60) . . .	3 Tues. . .	48-7506	3826	
22 Mar. (81) . . .	5 Thur. . .	17 5 0	19 Mar. (78) . . .	2 Mon. . .	83-3903	3827	
22 Mar. (81) . . .	6 Fri. . .	23 17 30	9 Mar. (68) . . .	0 Sat. . .	297-7055	3828	
23 Mar. (82) . . .	1 Sun. . .	5 30 0	26 Feb. (57) . . .	4 Wed. . .	173-3890	3829	
22 Mar. (82) . . .	2 Mon. . .	11 42 30	16 Mar. (76) . . .	3 Tues. . .	208-0286	3830	
22 Mar. (81) . . .	3 Tues. . .	17 55 0	5 Mar. (64) . . .	0 Sat. . .	83-7119	3831	
23 Mar. (82) . . .	5 Thur. . .	0 7 30	23 Feb. (54) . . .	5 Thur. . .	298-0272	3832	
23 Mar. (82) . . .	6 Fri. . .	6 20 0	14 Mar. (73) . . .	4 Wed. . .	332-6669	3833	
22 Mar. (82) . . .	0 Sat. . .	12 32 30	2 Mar. (62) . . .	1 Sun. . .	208-3502	3834	
22 Mar. (81) . . .	1 Sun. . .	18 45 0	21 Mar. (80) . . .	0 Sat. . .	242-9898	3835	
23 Mar. (82) . . .	3 Tues. . .	0 57 30	10 Mar. (69) . . .	4 Wed. . .	118-0732	3836	
23 Mar. (82) . . .	4 Wed. . .	7 10 0	28 Feb. (59) . . .	2 Mon. . .	332-9885	3837	
22 Mar. (82) . . .	5 Thur. . .	13 22 30	17 Mar. (77) . . .	0 Sat. . .	28-9902	3838	
22 Mar. (81) . . .	6 Fri. . .	19 35 0	7 Mar. (66) . . .	5 Thur. . .	243-3115	3839	
23 Mar. (82) . . .	1 Sun. . .	1 47 30	24 Feb. (55) . . .	2 Mon. . .	118-9949	3840	
23 Mar. (82) . . .	2 Mon. . .	8 0 0	15 Mar. (74) . . .	1 Sun. . .	153-6345	3841	
22 Mar. (82) . . .	3 Tues. . .	14 12 30	3 Mar. (63) . . .	5 Thur. . .	29-3179	3842	
22 Mar. (81) . . .	4 Wed. . .	20 25 0	22 Mar. (81) . . .	4 Wed. . .	63-9575	3843	
23 Mar. (82) . . .	6 Fri. . .	2 37 30	12 Mar. (71) . . .	2 Mon. . .	278-2728	3844	
23 Mar. (82) . . .	0 Sat. . .	8 50 0	1 Mar. (60) . . .	6 Fri. . .	163-9561	3845	

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SĀMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3846	667	802	151		*744-45	17 Subhānu . . .		...
3847	668	803	152		745-46	18 Tārāṇa . . .		...
3848	669	804	153		746-47	19 Pārthiva . . .		5 Śrāvapa .
3849	670	805	154		747-48	20 Vyaya . . .		...
3850	671	806	155		*748-49	21 Sarvajit . . .		...
3851	672	807	156		749-50	22 Sarvadhārin . . .		2 Vaiśākha .
3852	673	808	157		750-51	23 Virōdhin . . .		...
3853	674	809	158		751-52	24 Vikṛita . . .		10 Pausa .
3854	675	810	159		*752-53	25 Khara . . .		...
3855	676	811	160		753-54	26 Nandana . . .		...
3856	677	812	161		754-55	27 Vijaya . . .		7 Āśvina .
3857	678	813	162		755-56	28 Jaya . . .		...
3858	679	814	163		*756-57	29 Manmatha . . .		...
3859	680	815	164		757-58	30 Durmukha . . .		4 Āshāḍha .
3860	681	816	165		758-59	31 Hēmalamba . . .		...
3861	682	817	166		759-60	32 Vilamba . . .		12 Phālguna .
3862	683	818	167		*760-61	33 Vikārin . . .		...
3863	684	819	168		761-62	34 Śārvarin . . .		...
3864	685	820	169		762-63	35 Plava . . .		9 Mārgaśira .
3865	686	821	170		763-64	36 Subhukrit . . .		...
3866	687	822	171		*764-65	37 Sōbhana . . .		...
3867	688	823	172		765-66	38 Krōdhin . . .		5 Śrāvapa .
3868	689	824	173		766-67	39 Viśvāvasu . . .		...
3869	690	825	174		767-68	40 Parābhava . . .		...
3870	691	826	175		*768-69	41 Plavaṅga . . .		2 Vaiśākha .

LXXVI—Contd.

1 Arya Siddhānta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	<i>a</i> (here— <i>t</i> , the index of the tithi).	
13	14	17	19	20	23	1
		H. M. S.				
22 Mar. (82) . .	1 Sun. .	15 2 30	19 Mar. (79) . .	5 Thur. .	188-5957	3846
22 Mar. (81) . .	2 Mon. .	21 15 0	8 Mar. (67) . .	2 Mon. .	64-2790	3847
23 Mar. (82) . .	4 Wed. .	3 27 30	26 Feb. (57) . .	0 Sat. .	278-5944	3848
23 Mar. (82) . .	5 Thur. .	9 40 0	17 Mar. (76) . .	0 Fri. .	313-2341	3849
22 Mar. (82) . .	6 Fri. .	15 52 30	5 Mar. (65) . .	3 Tues. .	188-9173	3850
22 Mar. (81) . .	0 Sat. .	22 5 0	22 Feb. (53) . .	0 Sat. .	64-6007	3851
23 Mar. (82) . .	2 Mon. .	4 17 30	13 Mar. (72) . .	6 Fri. .	99-2404	3852
23 Mar. (82) . .	3 Tues. .	10 30 0	3 Mar. (62) . .	4 Wed. .	313-5556	3853
22 Mar. (82) . .	4 Wed. .	16 42 30	20 Mar. (80) . .	2 Mon. .	9-5633	3854
22 Mar. (81) . .	5 Thur. .	22 55 0	10 Mar. (69) . .	0 Sat. .	223-8786	3855
23 Mar. (82) . .	0 Sat. .	5 7 30	27 Feb. (58) . .	4 Wed. .	99-5620	3856
23 Mar. (82) . .	1 Sun. .	11 20 0	18 Mar. (77) . .	3 Tues. .	134-2016	3857
22 Mar. (82) . .	2 Mon. .	17 32 30	6 Mar. (66) . .	0 Sat. .	9-8850	3858
22 Mar. (81) . .	3 Tues. .	23 45 0	24 Feb. (55) . .	5 Thur. .	224-2003	3859
23 Mar. (82) . .	5 Thur. .	5 57 30	15 Mar. (74) . .	4 Wed. .	258-8399	3860
23 Mar. (82) . .	6 Fri. .	12 10 0	4 Mar. (63) . .	1 Sun. .	134-5233	3861
22 Mar. (82) . .	0 Sat. .	18 22 30	22 Mar. (82) . .	0 Sat. .	169-1628	3862
23 Mar. (82) . .	2 Mon. .	0 35 0	11 Mar. (70) . .	4 Wed. .	44-8463	3863
23 Mar. (82) . .	3 Tues. .	6 47 30	1 Mar. (60) . .	2 Mon. .	259-1616	3864
23 Mar. (82) . .	4 Wed. .	13 0 0	20 Mar. (79) . .	1 Sun. .	293-8012	3865
22 Mar. (82) . .	5 Thur. .	19 12 30	8 Mar. (68) . .	5 Thur. .	169-4846	3866
23 Mar. (82) . .	0 Sat. .	1 25 0	25 Feb. (56) . .	2 Mon. .	45-1680	3867
23 Mar. (82) . .	1 Sun. .	7 37 30	16 Mar. (75) . .	1 Sun. .	79-8076	3868
23 Mar. (82) . .	2 Mon. .	13 50 0	6 Mar. (65) . .	6 Fri. .	294-1228	3869
22 Mar. (82) . .	3 Tues. .	20 2 30	23 Feb. (54) . .	3 Tues. .	169-8062	3870

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Meshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3871	692	827	176		769-70	42 Kilaka . . .		...
3872	693	828	177		770-71	43 Saumya . . .		10 Pausha .
3873	694	829	178		771-72	44 Sādhārāṇa . . .		...
3874	695	830	179		*772-73	45 Virōdhakṛit . . .		...
3875	696	831	180		773-74	46 Paridhāvin . . .		7 Āśvina .
3876	697	832	181		774-75	47 Pramōdin . . .		...
3877	698	833	182		775-76	48 Ānanda . . .		...
3878	699	834	183		*776-77	49 Rākshasa . . .		3 Jyēshtha .
3879	700	835	184		777-78	50 Anala . . .		...
3880	701	836	185		778-79	51 Pīngala . . .		12 Phālguna .
3881	702	837	186		779-80	52 Kālayukta . . .		...
3882	703	838	187		*780-81	53 Siddhārthin . . .		...
3883	704	839	188		781-82	54 Raudra . . .		8 Kārttika .
3884	705	840	189		782-83	55 Durmati . . .		...
3885	706	841	190		783-84	56 Dundubhi . . .		...
3886	707	842	191		*784-85	57 Rudhirōdgārin . . .		5 Śrāvaṇa .
3887	708	843	192		785-86	58 Raktāksha . . .		...
3888	709	844	193		786-87	59 Krōdhana . . .		...
3889	710	845	194		787-88	60 Kshaya . . .		1 Chaitra .
3890	711	846	195		*788-89	1 Prabhava . . .		...
3891	712	847	196		789-90	2 Vibhava . . .		10 Pausha .
3892	713	848	197		790-91	3 Śukla . . .		...
3893	714	849	198		791-92	4 Pramōda . . .		...
3894	715	850	199		*792-93	5 Prajāpati . . .		7 Āśvina† .
3895	716	851	200		793-94	6 Āngiras . . .		...

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The Commemara Public Library, Madras.	Rajkumar College Library, Indore.
Sanskrit College Library, Mylapore.	Rajputana Museum Library, Ajmer.
Government College Library, Rajahmundry.	Library of the Resident at Baroda.
Maharajah's College Library, Trivandrum.	Baroda Museum Library, Baroda.
Sanskrit College Library, Tiruvadi (Tanjore).	Gwalior Darbar Library, Gwalior.
Maharajah's College Library, Vizayanagarum.	Bhri Singh Museum Library, Chumba.
Elphinstone College Library, Bombay.	Indian Antiquary, c/o the British India Press, Mazagaon, Bombay.
Prince of Wales Museum Library, Bombay.	

LXXVI—*Contd.*

1 Arya Siddhānta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	a (here—t, the index of the tithi).	
13	14	17	19	20	23	
		H. M. S.				1
23 Mar. (82) . .	5 Thur. .	2 15 0	13 Mar. (72) . .	2 Mon. .	204-4459	3871
23 Mar. (82) . .	6 Fri. .	8 27 30	2 Mar. (61) . .	6 Fri. .	80-1292	3872
23 Mar. (82) . .	0 Sat. .	14 40 0	21 Mar. (80) . .	5 Thur. .	114-7688	3873
22 Mar. (82) . .	1 Sun. .	20 52 30	10 Mar. (70) . .	3 Tues. .	329-0841	3874
23 Mar. (82) . .	3 Tues. .	3 5 0	27 Feb. (58) . .	0 Sat. .	204-7676	3875
23 Mar. (82) . .	4 Wed. .	9 17 30	18 Mar. (77) . .	6 Fri. .	239-4071	3876
23 Mar. (82) . .	5 Thur. .	15 30 0	7 Mar. (66) . .	3 Tues. .	115-0904	3877
22 Mar. (82) . .	6 Fri. .	21 42 30	25 Feb. (56) . .	1 Sun. .	329-4057	3878
23 Mar. (82) . .	1 Sun. .	3 55 0	14 Mar. (73) . .	6 Fri. .	25-4134	3879
23 Mar. (82) . .	2 Mon. .	10 7 30	4 Mar. (63) . .	4 Wed. .	239-7288	3880
23 Mar. (82) . .	3 Tues. .	16 20 0	23 Mar. (82) . .	3 Tues. .	274-3682	3881
22 Mar. (82) . .	4 Wed. .	22 32 30	11 Mar. (71) . .	0 Sat. .	150-0517	3882
23 Mar. (82) . .	6 Fri. .	4 45 0	28 Feb. (59) . .	4 Wed. .	25-7351	3883
23 Mar. (82) . .	0 Sat. .	10 57 30	19 Mar. (78) . .	3 Tues. .	60-3747	3884
23 Mar. (82) . .	1 Sun. .	17 10 0	9 Mar. (68) . .	1 Sun. .	274-6900	3885
22 Mar. (82) . .	2 Mon. .	23 22 30	26 Feb. (57) . .	5 Thur. .	150-3734	3886
23 Mar. (82) . .	4 Wed. .	5 35 0	16 Mar. (75) . .	4 Wed. .	185-0130	3887
23 Mar. (82) . .	5 Thur. .	11 47 30	5 Mar. (64) . .	1 Sun. .	60-6963	3888
23 Mar. (82) . .	6 Fri. .	18 0 0	23 Feb. (54) . .	6 Fri. .	275-0116	3889
23 Mar. (83) . .	1 Sun. .	0 12 30	13 Mar. (73) . .	5 Thur. .	309-6513	3890
23 Mar. (82) . .	2 Mon. .	6 25 0	2 Mar. (61) . .	2 Mon. .	185-3346	3891
23 Mar. (82) . .	3 Tues. .	12 37 30	21 Mar. (80) . .	1 Sun. .	219-9743	3892
23 Mar. (82) . .	4 Wed. .	18 50 0	10 Mar. (69) . .	5 Thur. .	95-6576	3893
23 Mar. (83) . .	6 Fri. .	1 2 30	28 Feb. (59) . .	3 Tues. .	309-9730	3894
23 Mar. (82) . .	0 Sat. .	7 15 0	17 Mar. (76) . .	1 Sun. .	5-9807	3895



TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Meshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3896	717	852	201		794-95	7 Śrīmukha . . .		...
3897	718	853	202		795-96	8 Bhāva . . .		3 Jyēshṭha .
3898	719	854	203		*796-97	9 Yuvan . . .		...
3899	720	855	204		797-98	10 Dhātṛi . . .		12 Phālguna .
3900	721	856	205		798-99	11 Īvara . . .		...
3901	722	857	206		799-800	12 Bahudhānya . .		...
3902	723	858	207		*800-01	13 Pramāthin . . .		8 Kārttika .
3903	724	859	208		801-02	14 Vikrama . . .		...
3904	725	860	209		802-03	15 Vṛisha . . .		...
3905	726	861	210		803-04	16 Chitrabhānu . .		5 Śrāvaṇa .
3906	727	862	211		*804-05	17 Subhānu . . .		...
3907	728	863	212		805-06	18 Tārava . . .		...
3908	729	864	213		806-07	19 Pārthiva . . .		1 Chaitra .
3909	730	865	214		807-08	20 Vyaya . . .		...
3910	731	866	215		*808-09	21 Sarvajit . . .		10 Pausa .
3911	732	867	216		809-10	22 Sarvadbārin . .		...
3912	733	868	217		810-11	23 Virōdhin . . .		...
3913	734	869	218		811-12	24 Vikṛita . . .		6 Bhādrapada.
3914	735	870	219		*812-13	25 Khara . . .		...
3915	736	871	220		813-14	26 Nandana . . .		...
3916	737	872	221		814-15	27 Vijaya . . .		3 Jyēshṭha .
3917	738	873	222		815-16	28 Jaya . . .		...
3918	739	874	223		*816-17	29 Manmatha . . .		11 Māgha .
3919	740	875	224		817-18	30 Darmukha . . .		...
3920	741	876	225		818-19	31 Hēmalamba . .		...

LXXVI—Contd.

1 Arya Siddhānta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	a (here—t, the index of the tithi).	
13	14	17	19	20	23	1
		H. M. S.				
23 Mar. (82) . .	1 Sun. .	13 27 30	7 Mar. (66) . .	6 Fri. .	220-2959	3896
23 Mar. (82) . .	2 Mon. .	19 40 0	24 Feb. (55) . .	3 Tues. .	95-9793	3897
23 Mar. (83) . .	4 Wed. .	1 52 30	14 Mar. (74) . .	2 Mon. .	130-6189	3898
23 Mar. (82) . .	5 Thur. .	8 5 0	3 Mar. (62) . .	6 Fri. .	6-3023	3899
23 Mar. (82) . .	6 Fri. .	14 17 30	22 Mar. (81) . .	5 Thur. .	40-9419	3900
23 Mar. (82) . .	0 Sat. .	20 30 0	12 Mar. (71) . .	3 Tues. .	255-2572	3901
23 Mar. (83) . .	2 Mon. .	2 42 30	29 Feb. (60) . .	0 Sat. .	130-9406	3902
23 Mar. (82) . .	3 Tues. .	8 55 0	19 Mar. (78) . .	6 Fri. .	165-5802	3903
23 Mar. (82) . .	4 Wed. .	15 7 30	8 Mar. (67) . .	3 Tues. .	41-2636	3904
23 Mar. (82) . .	5 Thur. .	21 20 0	26 Feb. (57) . .	1 Sun. .	255-5789	3905
23 Mar. (83) . .	0 Sat. .	3 32 30	16 Mar. (76) . .	0 Sat. .	290-2185	3906
23 Mar. (82) . .	1 Sun. .	9 45 0	5 Mar. (64) . .	4 Wed. .	165-9018	3907
23 Mar. (82) . .	2 Mon. .	15 57 30	22 Feb. (53) . .	1 Sun. .	41-5852	3908
23 Mar. (82) . .	3 Tues. .	22 10 0	13 Mar. (72) . .	0 Sat. .	76-2248	3909
23 Mar. (83) . .	5 Thur. .	4 22 30	2 Mar. (62) . .	5 Thur. .	290-5401	3910
23 Mar. (82) . .	6 Fri. .	10 35 0	21 Mar. (80) . .	4 Wed. .	325-1798	3911
23 Mar. (82) . .	0 Sat. .	16 47 30	10 Mar. (69) . .	1 Sun. .	200-8031	3912
23 Mar. (82) . .	1 Sun. .	23 0 0	27 Feb. (58) . .	5 Thur. .	76-5465	3913
23 Mar. (83) . .	3 Tues. .	5 12 30	17 Mar. (77) . .	4 Wed. .	111-1862	3914
23 Mar. (82) . .	4 Wed. .	11 25 0	7 Mar. (66) . .	2 Mon. .	325-5013	3915
23 Mar. (82) . .	5 Thur. .	17 37 30	24 Feb. (55) . .	6 Fri. .	201-1847	3916
23 Mar. (82) . .	6 Fri. .	23 50 0	15 Mar. (74) . .	5 Thur. .	235-8214	3917
23 Mar. (83) . .	1 Sun. .	6 2 30	3 Mar. (63) . .	2 Mon. .	111-5078	3918
23 Mar. (82) . .	2 Mon. .	12 15 0	22 Mar. (81) . .	1 Sun. .	146-1473	3919
23 Mar. (82) . .	3 Tues. .	18 27 30	11 Mar. (70) . .	5 Thur. .	21-8307	3920

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Māhādī solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3921	742	877	226		819-20	32 Vilamba† . . .		8 Kārttika .
3922	743	878	227		*820-21	34 Śirvarin . . .		...
3923	744	879	228		821-22	35 Plava . . .		...
3924	745	880	229		822-23	36 Śubhakṛit . . .		4 Āshādha .
3925	746	881	230		823-24	37 Śobhana . . .		...
3926	747	882	231		*824-25	38 Krōdhin . . .		...
3927	748	883	232	0-1	825-26	39 Viśvāvasu . . .		1 Chaitra .
3928	749	884	233	1-2	826-27	40 Parābhava . . .		...
3929	750	885	234	2-3	827-28	41 Plavaṅga . . .		10 Pausa
3930	751	886	235	3-4	*828-29	42 Kilaka . . .		...
3931	752	887	236	4-5	829-30	43 Saumya . . .		...
3932	753	888	237	5-6	830-31	44 Sādhāraṇa . . .		6 Bhādrapada.
3933	754	889	238	6-7	831-32	45 Virōdhakṛit . . .		...
3934	755	890	239	7-8	*832-33	46 Paridhāvin . . .		...
3935	756	891	240	8-9	833-34	47 Pramādin . . .		3 Jyēṣṭha .
3936	757	892	241	9-10	834-35	48 Ānanda . . .		...
3937	758	893	242	10-11	835-36	49 Rākshasa . . .		11 Māgha .
3938	759	894	243	11-12	*836-37	50 Anala . . .		...
3939	760	895	244	12-13	837-38	51 Piṅgala . . .		...
3940	761	896	245	13-14	838-39	52 Kālayukta . . .		8 Kārttika .
3941	762	897	246	14-15	839-40	53 Siddhārthin . . .		...
3942	763	898	247	15-16	*840-41	54 Raudra . . .		...
3943	764	899	248	16-17	841-42	55 Durmati . . .		4 Āshādha .
3944	765	900	249	17-18	842-43	56 Dundubhi . . .		...
3945	766	901	250	18-19	843-44	57 Rudhirōdgārin . . .		...

† By both mean and true systems 33 Vikārin was expunged.

LXXVI—*Contd.*

1 Ārya Siddhānta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali year.
Day and Month, A.D.	Week-day.	Time of mean Mēsha- sankrānti.	Day and month, A. D.	Week-day.	$\alpha$ (here— $t$ , the index of the tithi).	
13	14	17	19	20	23	1
24 Mar. (83) . .	5 Thur. .	11. M. S. 0 40 0	1 Mar. (60) . .	3 Tues. .	286-1460	3921
23 Mar. (83) . .	6 Fri. .	6 52 30	19 Mar. (79) . .	2 Mon. .	270-7856	3922
23 Mar. (82) . .	0 Sat. .	13 5 0	8 Mar. (67) . .	6 Fri. .	146-4690	3923
23 Mar. (82) . .	1 Sun. .	19 17 30	25 Feb. (56) . .	3 Tues. .	22-1524	3924
24 Mar. (83) . .	3 Tues. .	1 30 0	16 Mar. (75) . .	2 Mon. .	56-7920	3925
23 Mar. (83) . .	4 Wed. .	7 42 30	5 Mar. (65) . .	0 Sat. .	271-1073	3926
23 Mar. (82) . .	5 Thur. .	13 55 0	22 Feb. (53) . .	4 Wed. .	146-7906	3927
23 Mar. (82) . .	6 Fri. .	20 7 30	13 Mar. (72) . .	3 Tues. .	181-4303	3928
24 Mar. (83) . .	1 Sun. .	2 20 0	2 Mar. (61) . .	0 Sat. .	57-1137	3929
23 Mar. (83) . .	2 Mon. .	8 32 30	20 Mar. (80) . .	6 Fri. .	91-7533	3930
23 Mar. (82) . .	3 Tues. .	14 45 0	10 Mar. (69) . .	4 Wed. .	306-0686	3931
23 Mar. (82) . .	4 Wed. .	20 57 30	27 Feb. (58) . .	1 Sun. .	181-7519	3932
24 Mar. (83) . .	6 Fri. .	3 10 0	18 Mar. (77) . .	0 Sat. .	216-3916	3933
23 Mar. (83) . .	0 Sat. .	9 22 30	6 Mar. (66) . .	4 Wed. .	92-0749	3934
23 Mar. (82) . .	1 Sun. .	15 35 0	24 Feb. (55) . .	2 Mon. .	306-3902	3935
23 Mar. (82) . .	2 Mon. .	21 47 30	14 Mar. (73) . .	0 Sat. .	2-3979	3936
24 Mar. (83) . .	4 Wed. .	4 0 0	4 Mar. (63) . .	5 Thur. .	216-7132	3937
23 Mar. (83) . .	5 Thurs .	10 12 30	22 Mar. (82) . .	4 Wed. .	251-3528	3938
23 Mar. (82) . .	6 Fri. .	16 25 0	11 Mar. (70) . .	1 Sun. .	127-0362	3939
23 Mar. (82) . .	0 Sat. .	22 37 30	28 Feb. (59) . .	5 Thur. .	2-7176	3940
24 Mar. (83) . .	2 Mon. .	4 50 0	19 Mar. (78) . .	4 Wed. .	37-3592	3941
23 Mar. (83) . .	3 Tues. .	11 2 30	8 Mar. (68) . .	2 Mon. .	251-6745	3942
23 Mar. (82) . .	4 Wed. .	17 15 0	25 Feb. (56) . .	6 Fri. .	127-3579	3943
23 Mar. (82) . .	5 Thurs .	23 17 30	16 Mar. (75) . .	5 Thur. .	161-9975	3944
24 Mar. (83) . .	0 Sat. .	5 40 0	5 Mar. (64) . .	2 Mon. .	37-6809	3945

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3946	767	902	251	19-20	*844-45	58 Raktāksha . . .	.	1 Chaitra . . .
3947	768	903	252	20-21	845-46	59 Krōdhana . . .	.	...
3948	769	904	253	21-22	846-47	60 Kshaya . . .	.	9 Mārgasīra . . .
3949	770	905	254	22-23	847-48	1 Prabhava . . .	.	...
3950	771	906	255	23-24	*848-49	2 Vibhava . . .	.	...
3951	772	907	256	24-25	849-50	3 Śukla . . .	.	6 Bhādrapada . . .
3952	773	908	257	25-26	850-51	4 Pramōda . . .	.	...
3953	774	909	258	26-27	851-52	5 Prajāpati . . .	.	...
3954	775	910	259	27-28	*852-53	6 Aṅgīras . . .	.	2 Vaiśākha . . .
3955	776	911	260	28-29	853-54	7 Śrīnukha . . .	.	...
3956	777	912	261	29-30	854-55	8 Bhāva . . .	.	11 Māgha . . .
3957	778	913	262	30-31	855-56	9 Yuvan . . .	.	...
3958	779	914	263	31-32	*856-57	10 Dhātṛi . . .	.	...
3959	780	915	264	32-33	857-58	11 Īśvara . . .	.	7 Āśvin . . .
3960	781	916	265	33-34	858-59	12 Bahudhānya . . .	.	...
3961	782	917	266	34-35	859-60	13 Pramāthin . . .	.	...
3962	783	918	267	35-36	*860-61	14 Vikrama . . .	.	4 Āśhāḍha . . .
3963	784	919	268	36-37	861-62	15 Vṛiṣha . . .	.	...
3964	785	920	269	37-38	862-63	16 Chitrabhānu . . .	.	12 Phālguna . . .
3965	786	921	270	38-39	863-64	17 Subhānu . . .	.	...
3966	787	922	271	39-40	*864-65	18 Tārana . . .	.	...
3967	788	923	272	40-41	865-66	19 Pārthiva . . .	.	9 Mārgasīra . . .
3968	789	924	273	41-42	866-67	20 Vyaya . . .	.	...
3969	790	925	274	42-43	867-68	21 Sarvajit . . .	.	...
3970	791	926	275	43-44	*868-69	22 Sarvadhārin . . .	.	6 Bhādrapada.†

† By the " Indian Calendar " 5 Śrāvaṇa was intercalated.

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	<i>a</i> (here <i>a</i> , the index of the tithi).	
13	14	17	19	20	23	1
		H. M. S.				
23 Mar. (83) . . .	1 Sun. . .	11 52 30	23 Feb. (54) . . .	0 Sat. . .	251-9060	3946
23 Mar. (82) . . .	2 Mon. . .	18 5 0	13 Mar. (72) . . .	6 Fri. . .	286-6357	3947
24 Mar. (83) . . .	4 Wed. . .	0 17 30	2 Mar. (61) . . .	3 Tues. . .	162-3191	3948
24 Mar. (83) . . .	5 Thur. . .	6 30 0	21 Mar. (80) . . .	2 Mon. . .	196-6588	3949
23 Mar. (83) . . .	6 Fri. . .	12 42 30	9 Mar. (69) . . .	6 Fri. . .	72-6421	3950
23 Mar. (82) . . .	0 Sat. . .	18 55 0	27 Feb. (58) . . .	4 Wed. . .	286-9573	3951
24 Mar. (83) . . .	2 Mon. . .	1 7 30	18 Mar. (77) . . .	3 Tues. . .	321-5970	3952
24 Mar. (83) . . .	3 Tues. . .	7 20 0	7 Mar. (66) . . .	0 Sat. . .	197-2803	3953
23 Mar. (83) . . .	4 Wed. . .	13 32 30	24 Feb. (55) . . .	4 Wed. . .	72-9637	3954
23 Mar. (82) . . .	5 Thur. . .	19 45 0	14 Mar. (73) . . .	3 Tues. . .	107-6033	3955
24 Mar. (83) . . .	0 Sat. . .	1 57 30	4 Mar. (63) . . .	1 Sun. . .	321-0186	3956
24 Mar. (83) . . .	1 Sun. . .	8 10 0	22 Mar. (81) . . .	6 Fri. . .	17-9263	3957
23 Mar. (83) . . .	2 Mon. . .	14 22 30	11 Mar. (71) . . .	4 Wed. . .	232-2416	3958
23 Mar. (82) . . .	3 Tues. . .	20 25 0	28 Feb. (59) . . .	1 Sun. . .	107-9250	3959
24 Mar. (83) . . .	5 Thur. . .	2 47 30	19 Mar. (78) . . .	0 Sat. . .	142-5646	3960
24 Mar. (83) . . .	6 Fri. . .	9 0 0	8 Mar. (67) . . .	4 Wed. . .	18-2480	3961
23 Mar. (83) . . .	0 Sat. . .	15 12 30	26 Feb. (57) . . .	2 Mon. . .	232-5633	3962
23 Mar. (82) . . .	1 Sun. . .	21 25 0	16 Mar. (75) . . .	1 Sun. . .	267-2029	3963
24 Mar. (83) . . .	3 Tues. . .	3 37 30	5 Mar. (64) . . .	5 Thur. . .	142-8863	3964
24 Mar. (83) . . .	4 Wed. . .	9 50 0	24 Mar. (83) . . .	4 Wed. . .	177-5259	3965
23 Mar. (83) . . .	5 Thur. . .	16 2 30	12 Mar. (72) . . .	1 Sun. . .	53-2093	3966
23 Mar. (82) . . .	6 Fri. . .	22 15 0	2 Mar. (61) . . .	6 Fri. . .	267-5245	3967
24 Mar. (83) . . .	1 Sun. . .	4 27 30	21 Mar. (80) . . .	5 Thur. . .	302-1642	3968
24 Mar. (83) . . .	2 Mon. . .	10 40 0	10 Mar. (69) . . .	2 Mon. . .	177-8476	3969
23 Mar. (83) . . .	3 Tues. . .	16 52 30	27 Feb. (58) . . .	6 Fri. . .	53-6309	3970



TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēṣiādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3971	792	927	276	44-45	869-70	23 Virōdhin . . .		...
3972	793	928	277	45-46	870-71	24 Vikṛita . . .		...
3973	794	929	278	46-47	871-72	25 Khara . . .		2 Vaiśākha .
3974	795	930	279	47-48	*872-73	26 Nandana . . .		...
3975	796	931	280	48-49	873-74	27 Vijaya . . .		11 Māgha .
3976	797	932	281	49-50	874-75	28 Jaya . . .		...
3977	798	933	282	50-51	875-76	29 Manmatha . . .		...
3978	799	934	283	51-52	*876-77	30 Durmukha . . .		7 Āsvina .
3979	800	935	284	52-53	877-78	31 Hēmalamba . . .		...
3980	801	936	285	53-54	878-79	32 Vilamba . . .		...
3981	802	937	286	54-55	879-80	33 Vikārin . . .		4 Āshāḍha .
3982	803	938	287	55-56	*880-81	34 Śārvarin . . .		...
3983	804	939	288	56-57	881-82	35 Plava . . .		12 Phālguna .
3984	805	940	289	57-58	882-83	36 Subhakarit . . .		...
3985	806	941	290	58-59	883-84	37 Sōbhana . . .		...
3986	807	942	291	59-60	*884-85	38 Krōdhin . . .		9 Mārgaśīra .
3987	808	943	292	60-61	885-86	39 Viśvāvasu . . .		...
3988	809	944	293	61-62	886-87	40 Parābhava . . .		...
3989	810	945	294	62-63	887-88	41 Plavaṅga . . .		5 Śrāvaṇa .
3990	811	946	295	63-64	*888-89	42 Kilaka . . .		...
3991	812	947	296	64-65	889-90	43 Saumya . . .		...
3992	813	948	297	65-66	890-91	44 Sādhāraṇa . . .		2 Vaiśākha .
3993	814	949	298	66-67	891-92	45 Virōdbakarit . . .		...
3994	815	950	299	67-68	*892-93	46 Paridhāvin . . .		10 Pausa .
3995	816	951	300	68-69	893-94	47 Pramādin . . .		...

LXXVI—*contd.*

1 Arya Siddhanta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali year.]
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	<i>a</i> (here = <i>t</i> , the index of the tithi).	
13	14	17	19	20	23	
		H. M. S.				
23 Mar. (82) . . .	4 Wed. . .	23 5 0	17 Mar. (76) . . .	5 Thur. . .	88-1705	3971
24 Mar. (83) . . .	6 Fri. . .	5 17 30	7 Mar. (86) . . .	3 Tues. . .	302-4858	3972
24 Mar. (83) . . .	0 Sat. . .	11 30 0	24 Feb. (55) . . .	0 Sat. . .	178-1692	3973
23 Mar. (83) . . .	1 Sun. . .	17 42 30	14 Mar. (74) . . .	6 Fri. . .	212-8088	3974
23 Mar. (82) . . .	2 Mon. . .	23 55 0	3 Mar. (62) . . .	3 Tues. . .	88-4922	3975
24 Mar. (83) . . .	4 Wed. . .	6 7 30	22 Mar. (81) . . .	2 Mon. . .	123-1318	3976
24 Mar. (83) . . .	5 Thur. . .	12 20 0	11 Mar. (70) . . .	6 Fri. . .	9908-8151†	3977
23 Mar. (83) . . .	6 Fri. . .	18 32 30	29 Feb. (60) . . .	4 Wed. . .	213-1304	3978
24 Mar. (83) . . .	1 Sun. . .	0 45 0	19 Mar. (78) . . .	3 Tues. . .	247-7700	3979
24 Mar. (83) . . .	2 Mon. . .	6 57 30	8 Mar. (67) . . .	0 Sat. . .	123-4535	3980
24 Mar. (83) . . .	3 Tues. . .	13 10 0	25 Feb. (59) . . .	4 Wed. . .	9999-1368†	3981
23 Mar. (83) . . .	4 Wed. . .	19 22 30	15 Mar. (75) . . .	3 Tues. . .	33-7764	3982
24 Mar. (83) . . .	6 Fri. . .	1 35 0	5 Mar. (64) . . .	1 Sun. . .	248-0917	3983
24 Mar. (83) . . .	0 Sat. . .	7 47 30	24 Mar. (83) . . .	0 Sat. . .	282-7313	3984
24 Mar. (83) . . .	1 Sun. . .	14 0 0†	13 Mar. (72) . . .	4 Wed. . .	158-4147	3985
22 Mar. (83) . . .	2 Mon. . .	20 12 30	1 Mar. (61) . . .	1 Sun. . .	34-0980	3986
24 Mar. (83) . . .	4 Wed. . .	2 25 0	20 Mar. (79) . . .	0 Sat. . .	68-7377	3987
24 Mar. (83) . . .	5 Thur. . .	8 37 30	10 Mar. (69) . . .	5 Thur. . .	283-0530	3988
24 Mar. (83) . . .	6 Fri. . .	14 50 0	27 Feb. (58) . . .	2 Mon. . .	158-7364	3989
23 Mar. (83) . . .	0 Sat. . .	21 2 30	17 Mar. (77) . . .	1 Sun. . .	193-3760	3990
24 Mar. (83) . . .	2 Mon. . .	3 15 0	6 Mar. (65) . . .	5 Thur. . .	69-0594	3991
24 Mar. (83) . . .	3 Tues. . .	9 27 30	24 Feb. (55) . . .	3 Tues. . .	283-3746	3992
24 Mar. (83) . . .	4 Wed. . .	15 40 0	15 Mar. (74) . . .	2 Mon. . .	318-0143	3993
23 Mar. (83) . . .	5 Thur. . .	21 52 30	3 Mar. (63) . . .	6 Fri. . .	193-6976	3994
24 Mar. (83) . . .	0 Sat. . .	4 5 0	22 Mar. (81) . . .	5 Thur. . .	228-3372	3995

† As a mean tithi Chaitra sukla 1 was suppressed. The civil day corresponding to it, i.e., the first day of the mean luni-solar year, was as given in cols. 19, 20.



TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kal.	Saka.	Chaitrādi Vikrama.	Meshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3996	817	952	301	69-70	894-95	48 Ānanda . . .		...
3997	818	953	302	70-71	895-96	49 Rākshasa . . .		7 Āsvina .
3998	819	954	303	71-72	*896-97	50 Anala . . .		...
3999	820	955	304	72-73	897-98	51 Pīngala . . .		...
4000	821	956	305	73-74	898-99	52 Kālayukta . . .		3 Jyēṣṭha .
4001	822	957	306	74-75	899-900	53 Siddhārthin . . .		...
4002	823	958	307	75-76	*900-01	54 Raudra . . .		12 Phālguna .
4003	824	959	308	76-77	901-02	55 Durmatī . . .		...
4004	825	960	309	77-78	902-03	56 Dundubhi . . .		...
4005	826	961	310	78-79	903-04	57 Rudhirōdgārin . . .		9 Mārgaśra .
4006	827	962	311	79-80	*904-05	58 Rakṭāksha† . . .		...
4007	828	963	312	80-81	905-06	59 Krōdhana . . .	60 Kshaya . . .	...
4008	829	964	313	81-82	906-07	60 Kshaya† . . .	1 Prabhava . . .	5 Śrāvaṇa .
4009	830	965	314	82-83	907-08	1 Prabhava . . .	2 Vibhava . . .	...
4010	831	966	315	83-84	*908-09	2 Vibhava . . .	3 Śukla . . .	...
4011	832	967	316	84-85	909-10	3 Śukla . . .	4 Pramōda . . .	2 Vaiśākha .
4012	833	968	317	85-86	910-11	4 Pramōda . . .	5 Prajāpati . . .	...
4013	834	969	318	86-87	911-12	5 Prajāpati . . .	6 Aṅgiras . . .	10 Pausa .
4014	835	970	319	87-88	*912-13	6 Aṅgiras . . .	7 Śrīmukha . . .	...
4015	836	971	320	88-89	913-14	7 Śrīmukha . . .	8 Bhāva . . .	...
4016	837	972	321	89-90	914-15	8 Bhāva . . .	9 Yuvan . . .	7 Āsvina .
4017	838	973	322	90-91	915-16	9 Yuvan . . .	10 Dhātṛi . . .	...
4018	839	974	323	91-92	*916-17	10 Dhātṛi . . .	11 Iśvara . . .	...
4019	840	975	324	92-93	917-18	11 Iśvara . . .	12 Bahudhānya . . .	3 Jyēṣṭha .
4020	841	976	325	93-94	918-19	12 Bahudhānya . . .	13 Pramāthm . . .	...

† By the mean system 59 Krōdhana was expunged; by the true system 60 Kshaya was the expunged sāntara and the year A.D. 905-6 was called "Krodhana."

‡ By southern reckoning there was no suppression after this year

§ By the "Indian Calendar" 8 Kārttika was intercalated.

LXXVI—contd.

1 Ārya Siddhānta, mean system.

COMMENCEMENT OF THE							Kali year.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).				
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A. D.	Week-day.	a (here = t, the index of the tithi).		
13	14	17	19	20	23	1	
24 Mar. (83) . . .	1 Sun. . .	11. M. S. 10 17 30	11 Mar. (70) . . .	2 Mon. . .	104-0206	3996	
24 Mar. (83) . . .	2 Mon. . .	16 30 0	1 Mar. (60) . . .	0 Sat. . .	318-3359	3997	
23 Mar. (83) . . .	3 Tues. . .	22 42 30	18 Mar. (78) . . .	5 Thur. . .	14-3436	3998	
24 Mar. (83) . . .	5 Thur. . .	4 55 0	8 Mar. (67) . . .	3 Tues. . .	228-6589	3999	
24 Mar. (83) . . .	6 Fri. . .	11 7 30	25 Feb. (56) . . .	0 Sat. . .	104-3423	4000	
24 Mar. (83) . . .	0 Sat. . .	17 20 0	16 Mar. (75) . . .	6 Fri. . .	138-9819	4001	
23 Mar. (83) . . .	1 Sun. . .	23 32 30	4 Mar. (64) . . .	3 Tues. . .	14-6653	4002	
24 Mar. (83) . . .	3 Tues. . .	5 45 0	23 Mar. (82) . . .	2 Mon. . .	49-3049	4003	
24 Mar. (83) . . .	4 Wed. . .	11 57 30	13 Mar. (72) . . .	0 Sat. . .	263-6202	4004	
24 Mar. (83) . . .	5 Thur. . .	18 10 0	2 Mar. (61) . . .	4 Wed. . .	139-3084	4005	
24 Mar. (84) . . .	0 Sat. . .	0 22 30	20 Mar. (80) . . .	3 Tues. . .	173-9431	4006	
24 Mar. (83) . . .	1 Sun. . .	6 35 0	9 Mar. (68) . . .	0 Sat. . .	49-6264	4007	
24 Mar. (83) . . .	2 Mon. . .	12 47 30	27 Feb. (58) . . .	5 Thur. . .	263-9418	4008	
24 Mar. (83) . . .	3 Tues. . .	19 0 0	18 Mar. (77) . . .	4 Wed. . .	298-5814	4009	
24 Mar. (83) . . .	5 Thur. . .	1 12 30	6 Mar. (66) . . .	1 Sun. . .	174-2647	4010	
24 Mar. (83) . . .	6 Fri. . .	7 25 0	23 Feb. (54) . . .	5 Thur. . .	49-9481	4011	
24 Mar. (83) . . .	0 Sat. . .	13 37 30	14 Mar. (73) . . .	4 Wed. . .	84-5878	4012	
24 Mar. (82) . . .	1 Sun. . .	19 50 0	4 Mar. (63) . . .	2 Mon. . .	298-9030	4013	
24 Mar. (84) . . .	3 Tues. . .	2 2 30	21 Mar. (81) . . .	0 Sat. . .	9994-9109†	4014	
24 Mar. (83) . . .	4 Wed. . .	8 15 0	11 Mar. (70) . . .	5 Thur. . .	209-2259	4015	
24 Mar. (83) . . .	5 Thur. . .	14 27 30	28 Feb. (59) . . .	2 Mon. . .	84-9093	4016	
24 Mar. (83) . . .	6 Fri. . .	20 40 0	19 Mar. (78) . . .	1 Sun. . .	119-5490	4017	
24 Mar. (84) . . .	1 Sun. . .	2 52 30	7 Mar. (67) . . .	5 Thur. . .	9995-2324†	4018	
24 Mar. (83) . . .	2 Mon. . .	9 5 0	25 Feb. (56) . . .	3 Tues. . .	208-5476	4019	
24 Mar. (83) . . .	3 Tues. . .	15 17 30	16 Mar. (75) . . .	2 Mon. . .	244-1872	4020	

† As a mean tithi Chaitra Śukla 1 was suppressed. The civil day corresponding to it, i.e., the first day of the luni-solar year was as given in cols. 19, 20.

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4021	842	977	326	94-95	919-20	13 Pramāthin .	14 Vikrama .	12 Phālguna .
4022	843	978	327	95-96	*920-21	14 Vikrama .	15 Vṛisha .	...
4023	844	979	328	96-97	921-22	15 Vṛisha .	16 Chitrabhānu .	...
4024	845	980	329	97-98	922-23	16 Chitrabhānu .	17 Subhānu .	8 Kārttika .
4025	846	981	330	98-99	923-24	17 Subhānu .	18 Tāraṇa .	...
4026	847	982	331	99-00	*924-25	18 Tāraṇa .	19 Pārthiva .	...
4027	848	983	332	100-01	925-26	19 Pārthiva .	20 Vyaya .	5 Śrāvaṇa .
4028	849	984	333	101-02	926-27	20 Vyaya .	21 Sarvajit .	...
4029	850	985	334	102-03	927-28	21 Sarvajit .	22 Sarvadhārin .	...
4030	851	986	335	103-04	*928-29	22 Sarvadhārin .	23 Virōdhin .	1 Chaitra .
4031	852	987	336	104-05	929-30	23 Virōdhin .	24 Vikṛita .	...
4032	853	988	337	105-06	930-31	24 Vikṛita .	25 Khara .	10 Pausa .
4033	854	989	338	106-07	931-32	25 Khara .	26 Nandana .	...
4034	855	990	339	107-08	*932-33	26 Nandana .	27 Vijaya .	...
4035	856	991	340	108-09	933-34	27 Vijaya .	28 Jaya .	6 Bhādrapada .
4036	857	992	341	109-10	934-35	28 Jaya .	29 Manmatha .	...
4037	858	993	342	110-11	935-36	29 Manmatha .	30 Durmukha .	...
4038	859	994	343	111-12	*936-37	30 Durmukha .	31 Hēmalamba .	3 Jyēshṭha .
4039	860	995	344	112-13	937-38	31 Hēmalamba .	32 Vilamba .	...
4040	861	996	345	113-14	938-39	32 Vilamba .	33 Vikārin .	11 Māgha .
4041	862	997	346	114-15	939-40	33 Vikārin .	34 Śārvarin .	...
4042	863	998	347	115-16	*940-41	34 Śārvarin .	35 Plava .	...
4043	864	999	348	116-17	941-42	35 Plava .	36 Subhakrit .	8 Kārttika .
4044	865	1000	349	117-18	942-43	36 Subhakrit .	37 Śōbhana .	...
4045	866	1001	350	118-19	943-44	37 Śōbhana .	38 Krōdhin .	...

LXXVI—contd.

1 Arya Siddhanta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	a (here = t, the index of the tithi).	
13	14	17	19	20	23	
		H. M. S.				
24 Mar. (83) . .	4 Wed. .	21 30 0	5 Mar. (64) . .	6 Fri. .	119-8706	4021
24 Mar. (84) . .	6 Fri. .	3 42 30	23 Mar. (83) . .	5 Thur. .	154-5102	4022
24 Mar. (83) . .	0 Sat. .	9 55 0	12 Mar. (71) . .	2 Mon. .	30-1936	4023
24 Mar. (83) . .	1 Sun. .	16 7 30	2 Mar. (61) . .	0 Sat. .	244-5089	4024
24 Mar. (83) . .	2 Mon. .	22 20 0	21 Mar. (80) . .	6 Fri. .	279-1485	4025
24 Mar. (84) . .	4 Wed. .	4 32 30	9 Mar. (69) . .	3 Tues. .	154-8319	4026
24 Mar. (83) . .	5 Thur. .	10 45 0	26 Feb. (57) . .	0 Sat. .	30-5153	4027
24 Mar. (83) . .	6 Fri. .	16 57 30	17 Mar. (76) . .	6 Fri. .	65-1549	4028
24 Mar. (83) . .	0 Sat. .	23 10 0	7 Mar. (66) . .	4 Wed. .	279-4701	4029
24 Mar. (84) . .	2 Mon. .	5 22 30	24 Feb. (55) . .	1 Sun. .	155-1535	4030
24 Mar. (83) . .	3 Tues. .	11 35 0	14 Mar. (73) . .	0 Sat. .	189-7932	4031
24 Mar. (83) . .	4 Wed. .	17 47 30	3 Mar. (62) . .	4 Wed. .	65-4765	4032
25 Mar. (84) . .	6 Fri. .	0 0 0	22 Mar. (81) . .	3 Tues. .	100-1162	4033
24 Mar. (84) . .	0 Sat. .	6 12 30	11 Mar. (71) . .	1 Sun. .	314-4314	4034
24 Mar. (83) . .	1 Sun. .	12 25 0	28 Feb. (59) . .	5 Thur. .	190-1148	4035
24 Mar. (83) . .	2 Mon. .	18 37 30	19 Mar. (78) . .	4 Wed. .	224-7544	4036
25 Mar. (84) . .	4 Wed. .	0 50 0	8 Mar. (67) . .	1 Sun. .	100-4378	4037
24 Mar. (84) . .	5 Thur. .	7 2 30	26 Feb. (57) . .	6 Fri. .	314-7531	4038
24 Mar. (83) . .	6 Fri. .	13 15 0	15 Mar. (74) . .	4 Wed. .	10-7608	4039
24 Mar. (83) . .	0 Sat. .	19 27 30	5 Mar. (64) . .	2 Mon. .	225-9661	4040
25 Mar. (84) . .	2 Mon. .	1 40 0	24 Mar. (83) . .	1 Sun. .	259-7156	4041
24 Mar. (84) . .	3 Tues. .	7 52 30	12 Mar. (72) . .	5 Thur. .	125-3991	4042
24 Mar. (83) . .	4 Wed. .	14 5 0	1 Mar. (60) . .	2 Mon. .	11-0825	4043
24 Mar. (83) . .	5 Thur. .	20 17 30	20 Mar. (79) . .	1 Sun. .	45-7222	4044
25 Mar. (84) . .	0 Sat. .	2 30 0	10 Mar. (69) . .	6 Fri. .	260-0474	4045

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1.	2.	3.	3a.	4.	5.	6.	7.	8a.
4046	867	1002	351	119-20	*944-45	38 Krōdhin .	39 Viśvāvasu .	5 Srāvaṇa† .
4047	868	1003	352	120-21	945-46	39 Viśvāvasu .	40 Parābhava .	...
4048	869	1004	353	121-22	946-47	40 Parābhava .	41 Plavaṅga .	...
4049	870	1005	354	122-23	947-48	41 Plavaṅga .	42 Kīlaka .	1 Chaitra .
4050	871	1006	355	123-24	*948-49	42 Kīlaka .	43 Saumya .	...
4051	872	1007	356	124-25	949-50	43 Saumya .	44 Sādhārana .	10 Pausa .
4052	873	1008	357	125-26	950-51	44 Sādhārana .	45 Virōdhakṛit .	...
4053	874	1009	358	126-27	951-52	45 Virōdhakṛit .	46 Paridhāvin .	...
4054	875	1010	359	127-28	*952-53	46 Paridhāvin .	47 Pramādin .	6 Bhādrapada .
4055	876	1011	360	128-29	953-54	47 Pramādin .	48 Ānanda .	...
4056	877	1012	361	129-30	954-55	48 Ānanda .	49 Rākshasa .	...
4057	878	1013	362	130-31	955-56	49 Rākshasa .	50 Anala .	3 Jyēṣṭha .
4058	879	1014	363	131-32	*956-57	50 Anala .	51 Pīṅgala .	...
4059	880	1015	364	132-33	957-58	51 Pīṅgala .	52 Kālayukta .	11 Māgha .
4060	881	1016	365	133-34	958-59	52 Kālayukta .	53 Siddhārthin .	...
4061	882	1017	366	134-35	959-60	53 Siddhārthin .	54 Raudra .	...
4062	883	1018	367	135-36	*960-61	54 Raudra .	55 Durmatī .	8 Kārttika .
4063	884	1019	368	136-37	961-62	55 Durmatī .	56 Dundubhi .	...
4064	885	1020	369	137-38	962-63	56 Dundubhi .	57 Rudhirōdgārin .	...
4065	886	1021	370	138-39	963-64	57 Rudhirōdgārin .	58 Raktāksha .	4 Āṣāḍha .
4066	887	1022	371	139-40	*964-65	58 Raktāksha .	59 Krōdhana .	...
4067	888	1023	372	140-41	965-66	59 Krōdhana .	60 Kshaya .	...
4068	889	1024	373	141-42	966-67	60 Kshaya .	1 Prabhava .	1 Chaitra .
4069	890	1025	374	142-43	967-68	1 Prabhava .	2 Vibhava .	...
4070	891	1026	375	143-44	*968-69	2 Vibhava .	3 Śukla .	9 Mārgaśīṣa .

† By the "Indian Calendar" the intercalated month was 4 Āshāḍha.

LXXVI—contd.

1 Ārya Siddhanta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	$a$ (here= $t$ , the index of the tithi).	
13	14	17	19	20	23	1
		H. M. S.				
24 Mar. (84) . .	1 Sun. .	8 42 30	27 Feb. (58) . .	3 Tues. .	135-7207	4046
24 Mar. (83) . .	2 Mon. .	14 55 0	17 Mar. (76) . .	2 Mon. .	170-3603	4047
24 Mar. (83) . .	3 Tues. .	21 7 30	6 Mar. (65) . .	6 Fri. .	46-0436	4048
25 Mar. (84) . .	5 Thur. .	3 20 0	24 Feb. (55) . .	4 Wed. .	260-3590	4049
24 Mar. (84) . .	6 Fri. .	9 32 30	14 Mar. (74) . .	3 Tues. .	294-0986	4050
24 Mar. (83) . .	0 Sat. .	15 45 0	3 Mar. (62) . .	0 Sat. .	170-6819	4051
24 Mar. (83) . .	1 Sun. .	21 57 30	22 Mar. (81) . .	6 Fri. .	205-3216	4052
25 Mar. (84) . .	3 Tues. .	4 10 0	11 Mar. (70) . .	3 Tues. .	81-0049	4053
24 Mar. (84) . .	4 Wed. .	10 22 30	29 Feb. (60) . .	1 Sun. .	295-3203	4054
24 Mar. (83) . .	5 Thur. .	16 35 0	10 Mar. (78) . .	0 Sat. .	329-9599	4055
24 Mar. (83) . .	6 Fri. .	22 47 30	8 Mar. (67) . .	4 Wed. .	205-6432	4056
25 Mar. (84) . .	1 Sun. .	5 0 0	25 Feb. (56) . .	1 Sun. .	81-3266	4057
24 Mar. (84) . .	2 Mon. .	11 12 30	15 Mar. (75) . .	0 Sat. .	115-9662	4058
24 Mar. (83) . .	3 Tues. .	17 25 0	5 Mar. (64) . .	5 Thur. .	330-2815	4059
24 Mar. (83) . .	4 Wed. .	23 37 30	23 Mar. (82) . .	3 Tues. .	26-2892	4060
25 Mar. (84) . .	6 Fri. .	5 50 0	13 Mar. (72) . .	1 Sun. .	240-6045	4061
24 Mar. (84) . .	0 Sat. .	12 2 30	1 Mar. (61) . .	5 Thur. .	116-2870	4062
24 Mar. (83) . .	1 Sun. .	18 15 0	20 Mar. (79) . .	4 Wed. .	150-9275	4063
25 Mar. (84) . .	3 Tues. .	0 27 30	9 Mar. (68) . .	1 Sun. .	26-6109	4064
25 Mar. (84) . .	4 Wed. .	6 40 0	27 Feb. (58) . .	6 Fri. .	240-9262	4065
24 Mar. (84) . .	5 Thur. .	12 52 30	17 Mar. (77) . .	5 Thur. .	275-5658	4066
24 Mar. (83) . .	6 Fri. .	19 5 0	6 Mar. (65) . .	2 Mon. .	151-2491	4067
25 Mar. (84) . .	1 Sun. .	1 17 30	23 Feb. (54) . .	6 Fri. .	26-9325	4068
25 Mar. (84) . .	2 Mon. .	7 30 0	14 Mar. (73) . .	5 Thur. .	61-5721	4069
24 Mar. (84) . .	3 Tues. .	13 42 36	3 Mar. (63) . .	3 Tues. .	275-8874	4070

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	8	8a
4071	892	1027	376	144-45	969-70	3 Śukla . .	4 Pramōda .	...
4072	893	1028	377	145-46	970-71	4 Pramōda .	5 Prajāpati .	...
4073	894	1029	* 378	146-47	971-72	5 Prajāpati .	6 Āngiras .	6 Bhādrapada
4074	895	1030	379	147-48	*972-73	6 Āngiras .	7 Śrīmukha .	...
4075	896	1031	380	148-49	973-74	7 Śrīmukha .	8 Bhāva . .	...
4076	897	1032	381	149-50	974-75	8 Bhāva . .	9 Yuvan . .	2 Vaiśākha .
4077	898	1033	382	150-51	975-76	9 Yuvan . .	10 Dhātṛi . .	...
4078	899	1034	383	151-52	*976-77	10 Dhātṛi . .	11 Īsvara . .	11 Māgha . .
4079	900	1035	384	152-53	977-78	11 Īsvara . .	12 Bahudhānya .	...
4080	901	1036	385	153-54	978-79	12 Bahudhānya .	13 Pramāthin .	...
4081	902	1037	386	154-55	979-80	13 Pramāthin .	14 Vikrama .	8 Kārttika † .
4082	903	1038	387	155-56	*980-81	14 Vikrama .	15 Vṛisha . .	...
4083	904	1039	388	156-57	981-82	15 Vṛisha . .	16 Chitrabhānu .	...
4084	905	1040	389	157-58	982-83	16 Chitrabhānu .	17 Subhānu . .	4 Āshādha . .
4085	906	1041	390	158-59	983-84	17 Subhānu . .	18 Tārāṇa . .	...
4086	907	1042	391	159-60	*984-85	18 Tārāṇa . .	19 Pārthiva . .	...
4087	908	1043	392	160-61	985-86	19 Pārthiva . .	20 Vyaya . .	1 Chaitra . .
4088	909	1044	393	161-62	986-87	20 Vyaya . .	21 Sarvajit . .	...
4089	910	1045	394	162-63	987-88	21 Sarvajit . .	22 Sarvadhārin .	9 Mārgaśīra .
4090	911	1046	395	163-64	*988-89	22 Sarvadhārin .	23 Virōdhin . .	...
4091	912	1047	396	164-65	989-90	23 Virōdhin . .	24 Vikṛita † . .	...
4092	913	1048	397	165-66	990-91	24 Vikṛita . .	26 Nandana . .	6 Bhādrapada
4093	914	1049	398	166-67	991-92	25 Khara . .	27 Vijaya . .	...
4094	915	1050	399	167-68	*992-93	26 Nandana . .	28 Jaya . .	...
4095	916	1051	400	168-69	993-94	27 Vijaya . .	29 Manmatha .	2 Vaiśākha . .

† By the "Indian Calendar" 7 Āsina was intercalated.

‡ 25 Khara was expunged in the north by the mean system, but 26 Nandana by the true system. By the true system the year A.D. 990-91 was, in the north, called "Khara."

LXXVI—Contd.

1 Arya Siddhanta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	<i>a</i> (here= <i>t</i> , the index of the tithi).	
13	14	17	19	20	23	
		H. M. S.				
24 Mar. (83) . .	4 Wed. .	19 55 0	22 Mar. (81) . .	2 Mon. .	310-5271	4071
25 Mar. (84) . .	6 Fri. .	2 7 30	11 Mar. (70) . .	6 Fri. .	180-2104	4072
25 Mar. (84) . .	0 Sat. .	8 20 0	28 Feb. (59) . .	3 Tues. .	61-8939	4073
24 Mar. (84) . .	1 Sun. .	14 32 30	18 Mar. (78) . .	2 Mon. .	90-5335	4074
24 Mar. (83) . .	2 Mon. .	20 45 0	8 Mar. (67) . .	0 Sat. .	310-8487	4075
25 Mar. (84) . .	4 Wed. .	2 57 30	25 Feb. (56) . .	4 Wed. .	186-5321	4076
25 Mar. (84) . .	5 Thur. .	9 10 0	16 Mar. (75) . .	3 Tues. .	221-1716	4077
24 Mar. (84) . .	6 Fri. .	15 22 30	4 Mar. (64) . .	0 Sat. .	96-8550	4078
24 Mar. (83) . .	0 Sat. .	21 35 0	23 Mar. (82) . .	6 Fri. .	131-4946	4079
25 Mar. (84) . .	2 Mon. .	3 47 30	12 Mar. (71) . .	3 Tues. .	7-1781	4080
25 Mar. (84) . .	3 Tues. .	10 0 0	2 Mar. (61) . .	1 Sun. .	221-4933	4081
24 Mar. (84) . .	4 Wed. .	16 12 30	20 Mar. (80) . .	0 Sat. .	256-1329	4082
24 Mar. (83) . .	5 Thur. .	22 25 0	9 Mar. (68) . .	4 Wed. .	131-8163	4083
25 Mar. (84) . .	0 Sat. .	4 37 30	26 Feb. (57) . .	1 Sun. .	7-4998	4084
25 Mar. (84) . .	1 Sun. .	10 50 0	17 Mar. (76) . .	0 Sat. .	41-1393	4085
24 Mar. (84) . .	2 Mon. .	17 2 30	6 Mar. (66) . .	5 Thur. .	256-4546	4086
24 Mar. (83) . .	3 Tues. .	23 15 0	23 Feb. (54) . .	2 Mon. .	132-1379	4087
25 Mar. (84) . .	5 Thur. .	5 27 30	14 Mar. (73) . .	1 Sun. .	166-7776	4088
25 Mar. (84) . .	6 Fri. .	11 40 0	3 Mar. (62) . .	5 Thur. .	42-4610	4089
24 Mar. (84) . .	0 Sat. .	17 52 30	21 Mar. (81) . .	4 Wed. .	77-1006	4090
25 Mar. (84) . .	2 Mon. .	0 5 0	11 Mar. (70) . .	2 Mon. .	291-4158	4091
25 Mar. (84) . .	3 Tues. .	6 17 30	28 Feb. (59) . .	6 Fri. .	167-0992	4092
25 Mar. (84) . .	4 Wed. .	12 30 0	19 Mar. (78) . .	5 Thur. .	201-7389	4093
24 Mar. (84) . .	5 Thur. .	18 42 30	7 Mar. (67) . .	2 Mon. .	77-4222	4094
25 Mar. (84) . .	0 Sat. .	0 55 0	25 Feb. (56) . .	0 Sat. .	291-7375	4095



TABLE

CONCURRENT YEAR.								Mean Intercalated (adbika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4096	917	1052	401	169-70	994-95	28 Jaya . .	30 Durmukha .	...
4097	918	1053	402	170-71	995-96	29 Manmatha .	31 Hēmalamba .	11 Māgha .
4098	919	1054	403	171-72	*996-97	30 Durmukha .	32 Vilamba .	...
4099	920	1055	404	172-73	997-98	31 Hēmalamba .	33 Vikārin .	...
4100	921	1056	405	173-74	998-99	32 Vilamba .	34 Śārvarin .	7 Āsvina .
4101	922	1057	406	174-75	999-000	33 Vikārin .	35 Plava .	...
4102	923	1058	407	175-76	*1000-01	34 Śārvarin .	36 Subhakṛit .	...
4103	924	1059	408	176-77	1001-02	35 Plava .	37 Śōbhana .	4 Āshāḍha .
4104	925	1060	409	177-78	1002-03	36 Subhakṛit .	38 Krōddhin .	...
4105	926	1061	410	178-79	1003-04	37 Śōbhana .	39 Viśvāvasu .	12 Phālguna .
4106	927	1062	411	179-80	*1004-05	38 Krōddhin .	40 Parābhava .	...
4107	928	1063	412	180-81	1005-06	39 Viśvāvasu .	41 Plavaṅga .	...
4108	929	1064	413	181-82	1006-07	40 Parābhava .	42 Kilaka .	9 Mārgaśīra .
4109	930	1065	414	182-83	1007-08	41 Plavaṅga .	43 Saumya .	...
4110	931	1066	415	183-84	*1008-09	42 Kilaka .	44 Sādhāraṇa .	...
4111	932	1067	416	184-85	1009-10	43 Saumya .	45 Virōdhakṛit .	5 Śrāvaṇa .
4112	933	1068	417	185-86	1010-11	44 Sādhāraṇa .	46 Paridhāvin .	...
4113	934	1069	418	186-87	1011-12	45 Virōdhakṛit .	47 Pramādin .	...
4114	935	1070	419	187-88	*1012-13	46 Paridhāvin .	48 Ānanda .	2 Vaiśākha .
4115	936	1071	420	188-89	1013-14	47 Pramādin .	49 Rākshasa .	...
4116	937	1072	421	189-90	1014-15	48 Ānanda .	50 Anala .	10 Pausa .
4117	938	1073	422	190-91	1015-16	49 Rākshasa .	51 Piṅgala .	...
4118	939	1074	423	191-92	*1016-17	50 Anala .	52 Kālayukta .	...
4119	940	1075	424	192-93	1017-18	51 Piṅgala .	53 Siddhārthin .	7 Āsvina .
4120	941	1076	425	193-94	1018-19	52 Kālayukta .	54 Raudra .	...

LXXVI—Contd.

1 Arya Siddhanta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mésha-samkrānti.	Day and month, A.D.	Week-day.	$a$ (here= $t$ , the index of the tithi).	
13	14	17	19	20	23	1
		H. M. S.				
25 Mar. (84) . .	1 Sun. .	7 7 30	16 Mar. (75) . .	6 Fri. .	326-3771	4098
25 Mar. (84) . .	2 Mon. .	13 20 0	5 Mar. (84) . .	3 Tues. .	202-0605	4097
24 Mar. (84) . .	3 Tues. .	10 32 30	23 Mar. (83) . .	2 Mon. .	236-7001	4098
25 Mar. (84) . .	5 Thur. .	1 45 0	12 Mar. (71) . .	6 Fri. .	112-3835	4099
25 Mar. (84) . .	6 Fri. .	7 57 30	2 Mar. (61) . .	4 Wed. .	326-6988	4100
25 Mar. (84) . .	0 Sat. .	14 10 0	20 Mar. (79) . .	2 Mon. .	22-7065	4101
24 Mar. (84) . .	1 Sun. .	20 22 30	9 Mar. (69) . .	0 Sat. .	237-0218	4102
25 Mar. (84) . .	3 Tues. .	2 35 0	26 Feb. (57) . .	4 Wed. .	112-7052	4103
25 Mar. (84) . .	4 Wed. .	8 47 30	17 Mar. (76) . .	3 Tues. .	147-3448	4104
25 Mar. (84) . .	5 Thur. .	15 0 0	6 Mar. (65) . .	0 Sat. .	23-0272	4105
24 Mar. (84) . .	6 Fri. .	21 12 30	24 Mar. (84) . .	6 Fri. .	57-6667	4106
25 Mar. (84) . .	1 Sun. .	3 25 0	14 Mar. (73) . .	4 Wed. .	271-9831	4107
25 Mar. (84) . .	2 Mon. .	9 37 30	3 Mar. (62) . .	1 Sun. .	147-6665	4108
25 Mar. (84) . .	3 Tues. .	15 50 0	22 Mar. (81) . .	0 Sat. .	182-3061	4109
24 Mar. (84) . .	4 Wed. .	22 2 30	10 Mar. (70) . .	4 Wed. .	57-9894	4110
25 Mar. (84) . .	6 Fri. .	4 15 0	28 Feb. (59) . .	2 Mon. .	272-3047	4111
25 Mar. (84) . .	0 Sat. .	10 27 30	19 Mar. (78) . .	1 Sun. .	306-9444	4112
25 Mar. (84) . .	1 Sun. .	16 40 0	8 Mar. (67) . .	5 Thur. .	182-6277	4113
24 Mar. (84) . .	2 Mon. .	22 52 30	25 Feb. (56) . .	2 Mon. .	58-3111	4114
25 Mar. (84) . .	4 Wed. .	5 5 0	15 Mar. (74) . .	1 Sun. .	92-9507	4115
25 Mar. (84) . .	5 Thur. .	11 17 30	5 Mar. (64) . .	6 Fri. .	307-2659	4116
25 Mar. (84) . .	6 Fri. .	17 30 0	23 Mar. (82) . .	4 Wed. .	3-2737	4117
24 Mar. (84) . .	0 Sat. .	23 42 30	12 Mar. (72) . .	2 Mon. .	217-5890	4118
25 Mar. (84) . .	2 Mon. .	5 55 0	1 Mar. (60) . .	6 Fri. .	93-2723	4119
25 Mar. (84) . .	3 Tues. .	12 7 30	20 Mar. (79) . .	5 Thur. .	127-9119	4120

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4121	942	1077	426	194-05	1019-20	53 Siddhārthin .	55 Durmati .	...
4122	943	1078	427	195-06	*1020-21	54 Raudra .	56 Dundubhi .	4 Āshāḍha ‡ .
4123	944	1079	428	196-07	1021-22	55 Durmati .	57 Rudhirōdgārin	...
4124	945	1080	429	197-08	1022-23	56 Dundubhi .	58 Raktāksha .	12 Phālguna .
4125	946	1081	430	198-99	1023-24	57 Rudhirōdgārin	59 Krōdhana .	...
4126	947	1082	431	199-00	*1024-25	58 Raktāksha .	60 Kshaya .	...
4127	948	1083	432	200-01	1025-26	59 Krōdhana .	1 Prabhava .	9 Mārgaśīra .
4128	949	1084	433	201-02	1026-27	60 Kshaya .	2 Vibhava .	...
4129	950	1085	434	202-03	1027-28	1 Prabhava .	3 Śukla .	...
4130	951	1086	435	203-04	*1028-29	2 Vibhava .	4 Pramōda .	5 Śrāvaṇa .
4131	952	1087	436	204-05	1029-30	3 Śukla .	5 Prajāpati .	...
4132	953	1088	437	205-06	1030-31	4 Pramōda .	6 Āngiras .	...
4133	954	1089	438	206-07	1031-32	5 Prajāpati .	7 Śrīmukha .	2 Vaisākha .
4134	955	1090	439	207-08	*1032-33	6 Āngiras .	8 Bhāva .	...
4135	956	1091	440	208-09	1033-34	7 Śrīmukha .	9 Yuvaṇ .	10 Pausa .
4136	957	1092	441	209-10	1034-35	8 Bhāva .	10 Dhātṛi .	...
4137	958	1093	442	210-11	1035-36	9 Yuvaṇ .	11 Īśvara .	...
4138	959	1094	443	211-12	*1036-37	10 Dhātṛi .	12 Bahudhānya .	7 Āśvina .
4139	960	1095	444	212-13	1037-38	11 Īśvara .	13 Pramāthin .	...
4140	961	1096	445	213-14	1038-39	12 Bahudhānya .	14 Vikrama .	...
4141	962	1097	446	214-15	1039-40	13 Pramāthin .	15 Vṛisha .	3 Jyēṣṭha .
4142	963	1098	447	215-16	*1040-41	14 Vikrama .	16 Chitrabhānu .	...
4143	964	1099	448	216-17	1041-42	15 Vṛisha .	17 Subhānu .	12 Phālguna .
4144	965	1100	449	217-18	1042-43	16 Chitrabhānu .	18 Tāraṇa .	...
4145	966	1101	450	218-19	1043-44	17 Subhānu .	19 Pārthiva .	...

‡ By the "Indian Calendar" 3 Jyēṣṭha was intercalated.

LXXVI—Contd.

1 Ārya Siddhanta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mōsha-samkrānti.	Day and month, A.D.	Week-day.	a (here= <i>t</i> , the index of the tithi).	
13	14	17	19	20	23	
		H. M. S.				1
25 Mar. (84) . .	4 Wed. . .	18 20 0	9 Mar. (68) . .	2 Mon. . .	3-5953	4121
25 Mar. (85) . .	6 Fri. . .	0 32 30	27 Feb. (58) . .	0 Sat. . .	217-8106	4122
25 Mar. (84) . .	0 Sat. . .	6 45 0	17 Mar. (76) . .	6 Fri. . .	252-5502	4123
25 Mar. (84) . .	1 Sun. . .	12 57 30	6 Mar. (65) . .	3 Tues. . .	128-2336	4124
25 Mar. (84) . .	2 Mon. . .	19 10 0	25 Mar. (84) . .	2 Mon. . .	162-8732	4125
25 Mar. (85) . .	4 Wed. . .	1 22 30	13 Mar. (73) . .	6 Fri. . .	38-5566	4126
25 Mar. (84) . .	5 Thur. . .	7 35 0	3 Mar. (62) . .	4 Wed. . .	252-8719	4127
25 Mar. (84) . .	6 Fri. . .	13 47 30	22 Mar. (81) . .	3 Tues. . .	287-5115	4128
25 Mar. (84) . .	0 Sat. . .	20 0 0	11 Mar. (70) . .	0 Sat. . .	163-1948	4129
25 Mar. (85) . .	2 Mon. . .	2 12 30	28 Feb. (59) . .	4 Wed. . .	38-8782	4130
25 Mar. (84) . .	3 Tues. . .	8 25 0	18 Mar. (77) . .	3 Tues. . .	73-5179	4131
25 Mar. (84) . .	4 Wed. . .	14 37 30	8 Mar. (67) . .	1 Sun. . .	287-8331	4132
25 Mar. (84) . .	5 Thur. . .	20 50 0	25 Feb. (56) . .	5 Thur. . .	163-5165	4133
25 Mar. (85) . .	0 Sat. . .	3 2 30	15 Mar. (75) . .	4 Wed. . .	198-1561	4134
25 Mar. (84) . .	1 Sun. . .	9 15 0	4 Mar. (63) . .	1 Sun. . .	73-8395	4135
25 Mar. (84) . .	2 Mon. . .	15 27 30	23 Mar. (82) . .	0 Sat. . .	108-4791	4136
25 Mar. (84) . .	3 Tues. . .	21 40 0	13 Mar. (72) . .	5 Thur. . .	322-7944	4137
25 Mar. (85) . .	5 Thur. . .	3 52 30	1 Mar. (61) . .	2 Mon. . .	198-4778	4138
25 Mar. (84) . .	6 Fri. . .	10 5 0	20 Mar. (79) . .	1 Sun. . .	233-1174	4139
25 Mar. (84) . .	0 Sat. . .	16 17 30	9 Mar. (68) . .	5 Thur. . .	108-8008	4140
25 Mar. (84) . .	1 Sun. . .	22 30 0	27 Feb. (58) . .	3 Tues. . .	323-1161	4141
25 Mar. (85) . .	3 Tues. . .	4 42 30	16 Mar. (76) . .	1 Sun. . .	19-1238	4142
25 Mar. (84) . .	4 Wed. . .	10 55 0	6 Mar. (65) . .	6 Fri. . .	233-4391	4143
25 Mar. (84) . .	5 Thur. . .	17 7 30	25 Mar. (84) . .	5 Thur. . .	268-0787	4144
25 Mar. (84) . .	6 Fri. . .	23 20 0	14 Mar. (73) . .	2 Mon. . .	143-7621	4145

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4146	967	1102	451	219-20	*1044-45	18 Tārāṇa .	20 Vyaya .	8 Kārttika .
4147	968	1103	452	220-21	1045-46	19 Pārthiva .	21 Sarvajit .	...
4148	969	1104	453	221-22	1046-47	20 Vyaya .	22 Sarvadhārin .	...
4149	970	1105	454	222-23	1047-48	21 Sarvajit .	23 Virōdhin .	5 Śrāvaṇa .
4150	971	1106	455	223-24	*1048-49	22 Sarvadhārin .	24 Vikṛita .	...
4151	972	1107	456	224-25	1049-50	23 Virōdhin .	25 Khara .	...
4152	973	1108	457	225-26	1050-51	24 Vikṛita .	26 Nandana .	1 Chaitra .
4153	974	1109	458	226-27	1051-52	25 Khara .	27 Vijaya .	...
4154	975	1110	459	227-28	*1052-53	26 Nandana .	28 Jaya .	10 Pausa .
4155	976	1111	460	228-29	1053-54	27 Vijaya .	29 Manmatha .	...
4156	977	1112	461	229-30	1054-55	28 Jaya .	30 Durmukha .	...
4157	978	1113	462	230-31	1055-56	29 Manmatha .	31 Hōmalamba .	7 Āśvina† .
4158	979	1114	463	231-32	*1056-57	30 Durmukha .	32 Vilamba .	...
4159	980	1115	464	232-33	1057-58	31 Hōmalamba .	33 Vikārin .	...
4160	981	1116	465	233-34	1058-59	32 Vilamba .	34 Śārvarin .	3 Jyēṣṭha .
4161	982	1117	466	234-35	1059-60	33 Vikārin .	35 Plava .	...
4162	983	1118	467	235-36	*1060-61	34 Śārvarin .	36 Subhakṛit .	12 Phālguna .
4163	984	1119	468	236-37	1061-62	35 Plava .	37 Śōbhana .	...
4164	985	1120	469	237-38	1062-63	36 Subhakṛit .	38 Krōdhin .	...
4165	986	1121	470	238-39	1063-64	37 Śōbhana .	39 Viśvāvasu .	8 Kārttika .
4166	987	1122	471	239-40	*1064-65	38 Krōdhin .	40 Parābhava .	...
4167	988	1123	472	240-41	1065-66	39 Viśvāvasu .	41 Plavaṅga .	...
4168	989	1124	473	241-42	1066-67	40 Parābhava .	42 Kilaka .	5 Śrāvaṇa .
4169	990	1125	474	242-43	1067-68	41 Plavaṅga .	43 Saumya .	...
4170	991	1126	475	243-44	*1068-69	42 Kilaka .	44 Sādhārana .	...

† By the "Indian Calendar" 6 Bhādrapada was the intercalated month.

LXXVI—Contd.

1 Arya Siddhanta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Māha-samkrānti.	Day and month, A.D.	Week-day.	<i>a</i> (here= <i>t</i> , the index of the tithi).	
13	14	17	19	20	23	
		H. M. S.				
25 Mar. (85) . .	1 Sun. .	5 32 30	2 Mar. (62) . .	6 Fri. .	19-4454	4146
25 Mar. (84) . .	2 Mon. .	11 45 0	21 Mar. (80) . .	5 Thur. .	54-0850	4147
25 Mar. (84) . .	3 Tues. .	17 57 30	11 Mar. (70) . .	3 Tues. .	268-4003	4148
26 Mar. (85) . .	5 Thur. .	0 10 0	28 Feb. (59) . .	0 Sat. .	144-0838	4149
25 Mar. (85) . .	6 Fri. .	6 22 30	18 Mar. (78) . .	6 Fri. .	178-7233	4150
25 Mar. (84) . .	0 Sat. .	12 35 0	7 Mar. (66) . .	3 Tues. .	54-4067	4151
25 Mar. (84) . .	1 Sun. .	18 47 30	25 Feb. (56) . .	1 Sun. .	268-7219	4152
26 Mar. (85) . .	3 Tues. .	1 0 0	16 Mar. (75) . .	0 Sat. .	363-3615	4153
25 Mar. (85) . .	4 Wed. .	7 12 30	4 Mar. (64) . .	4 Wed. .	179-0449	4154
25 Mar. (84) . .	5 Thur. .	13 25 0	23 Mar. (82) . .	3 Tues. .	213-6845	4155
25 Mar. (84) . .	6 Fri. .	19 37 30	12 Mar. (71) . .	0 Sat. .	89-3679	4156
26 Mar. (85) . .	1 Sun. .	1 50 0	2 Mar. (61) . .	5 Thur. .	303-6882	4157
25 Mar. (85) . .	2 Mon. .	8 2 30	19 Mar. (79) . .	3 Tues. .	9990-6909 §	4158
25 Mar. (84) . .	3 Tues. .	14 15 0	9 Mar. (68) . .	1 Sun. .	214-0062	4159
25 Mar. (84) . .	4 Wed. .	20 27 30	26 Feb. (57) . .	5 Thur. .	89-6896	4160
26 Mar. (85) . .	6 Fri. .	2 40 0	17 Mar. (76) . .	4 Wed. .	124-3292	4161
25 Mar. (85) . .	0 Sat. .	8 52 30	5 Mar. (65) . .	1 Sun. .	0-0126	4162
25 Mar. (84) . .	1 Sun. .	15 5 0	24 Mar. (83) . .	0 Sat. .	34-6522	4163
25 Mar. (84) . .	2 Mon. .	21 17 30	14 Mar. (73) . .	5 Thur. .	248-9675	4164
26 Mar. (85) . .	4 Wed. .	3 30 0	3 Mar. (62) . .	2 Mon. .	124-6508	4165
25 Mar. (85) . .	5 Thur. .	9 42 30	21 Mar. (81) . .	1 Sun. .	159-2905	4166
25 Mar. (84) . .	6 Fri. .	15 55 0	10 Mar. (69) . .	5 Thur. .	34-9739	4167
25 Mar. (84) . .	0 Sat. .	22 7 30	28 Feb. (59) . .	3 Tues. .	249-2892	4168
26 Mar. (85) . .	2 Mon. .	4 20 0	19 Mar. (78) . .	2 Mon. .	283-9288	4169
25 Mar. (85) . .	3 Tues. .	10 32 30	7 Mar. (67) . .	6 Fri. .	159-6122	4170

§ As a mean tithi Chaitra Sukla 1 was expunged. The civil day corresponding to it, i.e., the first day of the luni-solar year was as given in cols. 19, 20.

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4171	992	1127	476	244-45	1069-70	43 Saumya .	45 Virōdhakṛit .	1 Chaitra .
4172	993	1128	477	245-46	1070-71	44 Sādhārāṇa .	46 Paridhāvin .	...
4173	994	1129	478	246-47	1071-72	45 Virōdhakṛit .	47 Pramādin .	10 Pausa .
4174	995	1130	479	247-48	*1072-73	46 Paridhāvin .	48 Ānanda .	...
4175	996	1131	480	248-49	1073-74	47 Pramādin .	49 Rākshasa .	...
4176	997	1132	481	249-50	1074-75	48 Ānanda .	50 Anala .	6 Bhādrapada
4177	998	1133	482	250-51	1075-76	49 Rākshasa .	51 Piṅgala † .	...
4178	999	1134	483	251-52	*1076-77	50 Anala .	53 Siddhārthin .	...
4179	1000	1135	484	252-53	1077-78	51 Piṅgala .	54 Raudra .	3 Jyēshṭha .
4180	1001	1136	485	253-54	1078-79	52 Kālayukta .	55 Durmati .	...
4181	1002	1137	486	254-55	1079-80	53 Siddhārthin .	56 Dundubhi .	11 Māgha .
4182	1003	1138	487	255-56	*1080-81	54 Raudra .	57 Rudhirōdgārin	...
4183	1004	1139	488	256-57	1081-82	55 Durmati .	58 Raktāksha .	...
4184	1005	1140	489	257-58	1082-83	56 Dundubhi .	59 Krōdhana .	8 Kārttika .
4185	1006	1141	490	258-59	1083-84	57 Rudhirōdgārin	60 Kshaya .	...
4186	1007	1142	491	259-60	*1084-85	58 Raktāksha .	1 Prabhava .	...
4187	1008	1143	492	260-61	1085-86	59 Krōdhana .	2 Vibhava .	4 Āshāḍha .
4188	1009	1144	493	261-62	1086-87	60 Kshaya .	3 Śukla .	...
4189	1010	1145	494	262-63	1087-88	1 Prabhava .	4 Pramōda .	...
4190	1011	1146	495	263-64	*1088-89	2 Vibhava .	5 Prajāpati .	1 Chaitra .
4191	1012	1147	496	264-65	1089-90	3 Śukla .	6 Āṅgiras .	...
4192	1013	1148	497	265-66	1090-91	4 Pramōda .	7 Śrīmukha .	9 Mārgaśīra .
4193	1014	1149	498	266-67	1091-92	5 Prajāpati .	8 Bhāva .	...
4194	1015	1150	499	267-68	*1092-93	6 Āṅgiras .	9 Yuvan .	...
4195	1016	1151	500	268-69	1093-94	7 Śrīmukha .	10 Dhātṛi .	6 Bhādrapada

† 52 Kālayukta was suppressed in the north.

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	<i>a</i> (here= <i>t</i> , the index of the tithi).	
13	14	17	19	20	23	1
		H. M. S.				
25 Mar. (84) . .	4 Wed. .	16 45 0	24 Feb. (55) . .	3 Tues. .	35-2955	4171
25 Mar. (84) . .	5 Thur. .	22 57 30	15 Mar. (74) . .	2 Mon. .	69-9351	4172
26 Mar. (85) . .	0 Sat. .	5 10 0	5 Mar. (64) . .	0 Sat. .	284-2504	4173
25 Mar. (85) . .	1 Sun. .	11 22 30	23 Mar. (83) . .	6 Fri. .	318-8901	4174
25 Mar. (84) . .	2 Mon. .	17 35 0	12 Mar. (71) . .	3 Tues. .	194-5734	4175
25 Mar. (84) . .	3 Tues. .	23 47 30	1 Mar. (60) . .	0 Sat. .	70-2568	4176
26 Mar. (85) . .	5 Thur. .	6 0 0	20 Mar. (79) . .	6 Fri. .	104-8964	4177
25 Mar. (85) . .	6 Fri. .	12 12 30	9 Mar. (69) . .	4 Wed. .	319-2116	4178
25 Mar. (84) . .	0 Sat. .	18 25 0	26 Feb. (57) . .	1 Sun. .	194-8950	4179
26 Mar. (85) . .	2 Mon. .	0 37 30	17 Mar. (76) . .	0 Sat. .	229-5347	4180
26 Mar. (85) . .	3 Tues. .	6 50 0	6 Mar. (65) . .	4 Wed. .	105-2180	4181
25 Mar. (85) . .	4 Wed. .	13 -2 30	24 Mar. (84) . .	3 Tues. .	139-8576	4182
25 Mar. (84) . .	5 Thur. .	19 15 0	13 Mar. (72) . .	0 Sat. .	15-5410	4183
26 Mar. (85) . .	0 Sat. .	1 27 30	3 Mar. (62) . .	5 Thur. .	229-8563	4184
26 Mar. (85) . .	1 Sun. .	7 40 0	22 Mar. (81) . .	4 Wed. .	264-4959	4185
25 Mar. (85) . .	2 Mon. .	13 52 30	10 Mar. (70) . .	1 Sun. .	140-1793	4186
25 Mar. (84) . .	3 Tues. .	20 5 0	27 Feb. (58) . .	5 Thur. .	15-8627	4187
26 Mar. (85) . .	5 Thur. .	2 17 30	18 Mar. (77) . .	4 Wed. .	50-5023	4188
26 Mar. (85) . .	6 Fri. .	8 30 0	8 Mar. (67) . .	2 Mon. .	264-8176	4189
25 Mar. (85) . .	0 Sat. .	14 42 30	25 Feb. (56) . .	6 Fri. .	140-5009	4190
25 Mar. (84) . .	1 Sun. .	20 55 0	16 Mar. (74) . .	5 Thur. .	175-1405	4191
26 Mar. (85) . .	3 Tues. .	3 7 30	4 Mar. (63) . .	2 Mon. .	50-8239	4192
26 Mar. (85) . .	4 Wed. .	9 20 0	23 Mar. (62) . .	1 Sun. .	85-4636	4193
25 Mar. (85) . .	5 Thur. .	15 32 30	12 Mar. (72) . .	6 Fri. .	299-7788	4194
25 Mar. (84) . .	6 Fri. .	21 45 0	1 Mar. (60) . .	3 Tues. .	175-4622	4195



TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4196	1017	1152	501	269-70	1094-95	8 Bhāva . .	11 Īsvara . .	...
4197	1018	1153	502	270-71	1095-96	9 Yuvan . .	12 Bahudhānya .	...
4198	1019	1154	503	271-72	*1096-97	10 Dhātṛi . .	13 Pramāthin .	3 Jyēshtha † .
4199	1020	1155	504	272-73	1097-98	11 Īsvara . .	14 Vikrama . .	...
4200	1021	1156	505	273-74	1098-99	12 Bahudhānya .	15 Vṛisha . .	11 Māgha .
4201	1022	1157	506	274-75	1099-00	13 Pramāthin .	16 Chitrabhānu .	...
4202	1023	1158	507	275-76	*1100-01	14 Vikrama . .	17 Subhānu . .	...
4203	1024	1159	508	276-77	1101-02	15 Vṛisha . .	18 Tārana . .	8 Kārttika .
4204	1025	1160	509	277-78	1102-03	16 Chitrabhānu .	19 Pārthiva . .	...
4205	1026	1161	510	278-79	1103-04	17 Subhānu . .	20 Vyaya . .	...
4206	1027	1162	511	279-80	*1104-05	18 Tārana . .	21 Sarvajit . .	4 Āshādha .
4207	1028	1163	512	280-81	1105-06	19 Pārthiva . .	22 Sarvadhārin .	...
4208	1029	1164	513	281-82	1106-07	20 Vyaya . .	23 Virōdhin . .	...
4209	1030	1165	514	282-83	1107-08	21 Sarvajit . .	24 Vikṛita . .	1 Chaitra .
4210	1031	1166	515	283-84	*1108-09	22 Sarvadhārin .	25 Khara . .	...
4211	1032	1167	516	284-85	1109-10	23 Virōdhin . .	26 Nandana . .	9 Māghasira .
4212	1033	1168	517	285-86	1110-11	24 Vikṛita . .	27 Vijaya . .	...
4213	1034	1169	518	286-87	1111-12	25 Khara . .	28 Jaya . .	...
4214	1035	1170	519	287-88	*1112-13	26 Nandana . .	29 Manmatha . .	6 Bhādrapada
4215	1036	1171	520	288-89	1113-14	27 Vijaya . .	30 Durmukha . .	...
4216	1037	1172	521	289-90	1114-15	28 Jaya . .	31 Hēmalamba .	...
4217	1038	1173	522	290-91	1115-16	29 Manmatha . .	32 Vilamba . .	2 Vaiśākha .
4218	1039	1174	523	291-92	*1116-17	30 Durmukha . .	33 Vikārin . .	...
4219	1040	1175	524	292-93	1117-18	31 Hēmalamba .	34 Sārvarin . .	11 Māgha .
4220	1041	1176	525	293-94	1118-19	32 Vilamba . .	35 Pāva . .	...

By the "Indian Calendar" 2 Vaiśākha was intercalated.

LXXVI—Contd.

1 Arya Siddhanta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	$\alpha$ (here= $t$ , the index of the tithi).	
13	14	17	19	20	23	1
		H. M. S.				
26 Mar. (85) . .	1 Sun. .	3 57 30	20 Mar. (79) . .	2 Mon. .	210-1018	4196
26 Mar. (85) . .	2 Mon. .	10 10 0	9 Mar. (68) . .	6 Fri. .	85-7852	4197
25 Mar. (85) . .	3 Tues. .	16 22 30	27 Feb. (58) . .	4 Wed. .	300-1005	4198
25 Mar. (84) . .	4 Wed. .	22 35 0	16 Mar. (75) . .	2 Mon. .	9996-1082†	4199
26 Mar. (85) . .	6 Fri. .	4 47 30	6 Mar. (65) . .	0 Sat. .	210-4235	4200
26 Mar. (85) . .	0 Sat. .	11 0 0	25 Mar. (84) . .	6 Fri. .	245-0630	4201
25 Mar. (85) . .	1 Sun. .	17 12 30	13 Mar. (73) . .	3 Tues. .	120-7464	4202
25 Mar. (84) . .	2 Mon. .	23 25 0	2 Mar. (61) . .	0 Sat. .	9996-4298†	4203
26 Mar. (85) . .	4 Wed. .	5 37 30	21 Mar. (80) . .	6 Fri. .	31-0694	4204
26 Mar. (85) . .	5 Thur. .	11 50 0	11 Mar. (70) . .	4 Wed. .	245-3847	4205
25 Mar. (85) . .	6 Fri. .	18 2 30	28 Feb. (59) . .	1 Sun. .	121-0681	4206
26 Mar. (85) . .	1 Sun. .	0 15 0	18 Mar. (77) . .	0 Sat. .	155-7077	4207
26 Mar. (85) . .	2 Mon. .	6 27 30	7 Mar. (66) . .	4 Wed. .	31-3911	4208
26 Mar. (85) . .	3 Tues. .	12 40 0	25 Feb. (56) . .	2 Mon. .	245-7063	4209
25 Mar. (85) . .	4 Wed. .	18 52 30	15 Mar. (75) . .	1 Sun. .	280-3460	4210
26 Mar. (85) . .	6 Fri. .	1 5 0	4 Mar. (63) . .	5 Thur. .	156-0293	4211
26 Mar. (85) . .	0 Sat. .	7 17 30	23 Mar. (82) . .	4 Wed. .	190-6690	4212
26 Mar. (85) . .	1 Sun. .	13 30 0	12 Mar. (71) . .	1 Sun. .	66-3524	4213
25 Mar. (85) . .	2 Mon. .	19 42 30	1 Mar. (61) . .	6 Fri. .	280-6676	4214
26 Mar. (85) . .	4 Wed. .	1 55 0	20 Mar. (79) . .	5 Thur. .	315-3072	4215
26 Mar. (85) . .	5 Thur. .	8 7 30	9 Mar. (68) . .	2 Mon. .	190-9905	4216
26 Mar. (85) . .	6 Fri. .	14 20 0	28 Feb. (57) . .	6 Fri. .	66-6740	4217
25 Mar. (85) . .	0 Sat. .	20 32 30	16 Mar. (76) . .	5 Thur. .	101-3136	4218
26 Mar. (85) . .	2 Mon. .	2 45 0	6 Mar. (65) . .	3 Tues. .	315-6288	4219
26 Mar. (85) . .	3 Tues. .	8 57 30	24 Mar. (83) . .	1 Sun. .	11-6365	4220

† As a mean tithi Chaitra Sukla 1 was expunged. The civil day corresponding to it, i.e., the first day of the luni-solar year was as given in cols. 19, 20.

TABLE

CONCURRENT YEAR.								Mean Intersalated (adhika) lunar month.
Kalī.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4221	1042	1177	526	294-95	1119-20	33 Vikārin .	36 Subhakṛit .	...
4222	1043	1178	527	295-96	*1120-21	34 Śārvarin .	37 Śōbhana .	7 Āśvina
4223	1044	1179	528	296-97	1121-22	35 Plava .	38 Krōḍhin .	...
4224	1045	1180	529	297-98	1122-23	36 Subhakṛit .	39 Viśvāvasu .	...
4225	1046	1181	530	298-99	1123-24	37 Śōbhana .	40 Parābhava .	4 Āshāḍha .
4226	1047	1182	531	299-00	*1124-25	38 Krōḍhin .	41 Plavaṅga .	...
4227	1048	1183	532	300-01	1125-26	39 Viśvāvasu .	42 Kīlaka .	12 Phālguna .
4228	1049	1184	533	301-02	1126-27	40 Parābhava .	43 Saumya .	...
4229	1050	1185	534	302-03	1127-28	41 Plavaṅga .	44 Sādhāraṇa .	...
4230	1051	1186	535	303-04	*1128-29	42 Kīlaka .	45 Virōdhakṛit .	9 Mārgaśira .
4231	1052	1187	536	304-05	1129-30	43 Saumya .	46 Paridhāvin .	...
4232	1053	1188	537	305-06	1130-31	44 Sādhāraṇa .	47 Pramādin .	...
4233	1054	1189	538	306-07	1131-32	45 Virōdhakṛit .	48 Ānanda .	6 Bhādrapada
4234	1055	1190	539	307-08	*1132-33	46 Paridhāvin .	49 Rākshasa .	...
4235	1056	1191	540	308-09	1133-34	47 Pramādin .	50 Anala .	...
4236	1057	1192	541	309-10	1134-35	48 Ānanda .	51 Piṅgala .	2 Vaiśākha .
4237	1058	1193	542	310-11	1135-36	49 Rākshasa .	52 Kālayukta .	...
4238	1059	1194	543	311-12	*1136-37	50 Anala .	53 Siddhārthin .	11 Māgha .
4239	1060	1195	544	312-13	1137-38	51 Piṅgala .	54 Raudra .	...
4240	1061	1196	545	313-14	1138-39	52 Kālayukta .	55 Durmati .	...
4241	1062	1197	546	314-15	1139-40	53 Siddhārthin .	56 Dundubhi .	7 Āśvina .
4242	1063	1198	547	315-16	*1140-41	54 Raudra .	57 Rudhirōdgārin	...
4243	1064	1199	548	316-17	1141-42	55 Durmati .	58 Raktāksha .	...
4244	1065	1200	549	317-18	1142-43	56 Dundubhi .	59 Krōḍhana .	4 Āshāḍha .
4245	1066	1201	550	318-19	1143-44	57 Rudhirōdgārin	60 Kshaya .	...

LXXVI—Contd.

1 Arya Siddhanta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali year
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	$\alpha$ (here= $t$ , the index of the tithi).	
13	14	17	19	20	23	1
		H. M. S.				
26 Mar. (85) . .	4 Wed. . .	15 10 0	14 Mar. (73) . .	6 Fri. . .	225-9518	4221
25 Mar. (85) . .	5 Thur. . .	21 22 30	2 Mar. (62) . .	3 Tues. . .	101-6352	4222
26 Mar. (85) . .	0 Sat. . .	3 35 0	21 Mar. (80) . .	2 Mon. . .	130-2748	4223
26 Mar. (85) . .	1 Sun. . .	9 47 30	10 Mar. (69) . .	6 Fri. . .	11-9582	4224
26 Mar. (85) . .	2 Mon. . .	16 0 0	28 Feb. (59) . .	4 Wed. . .	226-2735	4225
25 Mar. (85) . .	3 Tues. . .	22 12 30	18 Mar. (78) . .	3 Tues. . .	260-9131	4226
26 Mar. (85) . .	5 Thur. . .	4 25 0	7 Mar. (66) . .	0 Sat. . .	136-5965	4227
26 Mar. (85) . .	6 Fri. . .	10 37 30	26 Mar. (85) . .	6 Fri. . .	171-2360	4228
26 Mar. (85) . .	0 Sat. . .	16 50 0	15 Mar. (74) . .	3 Tues. . .	46-9195	4229
25 Mar. (85) . .	1 Sun. . .	23 2 30	4 Mar. (64) . .	1 Sun. . .	261-2348	4230
26 Mar. (85) . .	3 Tues. . .	5 15 0	23 Mar. (82) . .	0 Sat. . .	295-8744	4231
26 Mar. (85) . .	4 Wed. . .	11 27 30	12 Mar. (71) . .	4 Wed. . .	171-5578	4232
26 Mar. (85) . .	5 Thur. . .	17 40 0	1 Mar. (60) . .	1 Sun. . .	47-2411	4233
25 Mar. (85) . .	6 Fri. . .	23 52 30	19 Mar. (79) . .	0 Sat. . .	81-8807	4234
26 Mar. (85) . .	1 Sun. . .	6 5 0	9 Mar. (68) . .	5 Thur. . .	296-1960	4235
26 Mar. (85) . .	2 Mon. . .	12 17 30	26 Feb. (57) . .	2 Mon. . .	171-8794	4236
26 Mar. (85) . .	3 Tues. . .	18 30 0	17 Mar. (76) . .	1 Sun. . .	206-5190	4237
26 Mar. (86) . .	5 Thur. . .	0 42 30	5 Mar. (65) . .	5 Thur. . .	82-2024	4238
26 Mar. (85) . .	6 Fri. . .	6 55 0	24 Mar. (83) . .	4 Wed. . .	116-8420	4239
26 Mar. (85) . .	0 Sat. . .	13 7 30	14 Mar. (73) . .	2 Mon. . .	331-1573	4240
26 Mar. (85) . .	1 Sun. . .	19 20 0	3 Mar. (62) . .	6 Fri. . .	206-8407	4241
26 Mar. (86) . .	3 Tues. . .	1 32 30	21 Mar. (81) . .	5 Thur. . .	241-4803	4242
26 Mar. (85) . .	4 Wed. . .	7 45 0	10 Mar. (69) . .	2 Mon. . .	117-1637	4243
26 Mar. (85) . .	5 Thur. . .	13 57 30	28 Feb. (59) . .	0 Sat. . .	331-4790	4244
26 Mar. (85) . .	6 Fri. . .	20 10 0	18 Mar. (77) . .	5 Thur. . .	27-4867	4245

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4246	1067	1202	551	319-20	*1144-45	58 Raktāksha .	1 Prabhava .	12 Phālguna .
4247	1068	1203	552	320-21	1145-46	59 Krōdhana .	2 Vibhava .	...
4248	1069	1204	553	321-22	1146-47	60 Kahaya .	3 Śukla .	...
4249	1070	1205	554	322-23	1147-48	1 Prabhava .	4 Pramōda .	9 Mārgasīra .
4250	1071	1206	555	323-24	*1148-49	2 Vibhava .	5 Prajāpati .	...
4251	1072	1207	556	324-25	1149-50	3 Śukla .	6 Aṅgiras .	...
4252	1073	1208	557	325-26	1150-51	4 Pramōda .	7 Śrīmukha .	5 Śrāvapa .
4253	1074	1209	558	326-27	1151-52	5 Prajāpati .	8 Bhāva .	...
4254	1075	1210	559	327-28	*1152-53	6 Aṅgiras .	9 Yuvan .	...
4255	1076	1211	560	328-29	1153-54	7 Śrīmukha .	10 Dhātṛi .	2 Vaiśākha .
4256	1077	1212	561	329-30	1154-55	8 Bhāva .	11 Iśvara .	...
4257	1078	1213	562	330-31	1155-56	9 Yuvan .	12 Bahudhānya .	10 Pausha .
4258	1079	1214	563	331-32	*1156-57	10 Dhātṛi .	13 Pramāthin .	...
4259	1080	1215	564	332-33	1157-58	11 Iśvara .	14 Vikrama .	...
4260	1081	1216	565	333-34	1158-59	12 Bahudhānya .	15 Vṛisha .	7 Āsvina .
4261	1082	1217	566	334-35	1159-60	13 Pramāthin .	16 Chitrabhānu .	...
4262	1083	1218	567	335-36	*1160-61	14 Vikrama .	17 Subhānu*	...
4263	1084	1219	568	336-37	1161-62	15 Vṛisha .	19 Pārthiva .	3 Jyēshtha .
4264	1085	1220	569	337-38	1162-63	16 Chitrabhānu .	20 Vyaya .	...
4265	1086	1221	570	338-39	1163-64	17 Subhānu .	21 Sarvajit .	12 Phālguna .
4266	1087	1222	571	339-40	*1164-65	18 Tārāpa .	22 Sarvadhārin .	...
4267	1088	1223	572	340-41	1165-66	19 Pārthiva .	23 Virōdhin .	...
4268	1089	1224	573	341-42	1166-67	20 Vyaya .	24 Vikṛita .	8 Kārttika .
4269	1090	1225	574	342-43	1167-68	21 Sarvajit .	25 Khara .	...
4270	1091	1226	575	343-44	*1168-69	22 Sarvadhārin .	26 Nandana .	...

\* 18 Tārāpa was suppressed in the north.

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

COMMENCEMENT OF THE .							Kali year.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).				
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	a (here = t, the index of the tithi).		
13	14	17	19	20	23	1	
		H. M. S.					
26 Mar. (86) . .	1 Sun. .	2 22 30	7 Mar. (67) . .	3 Tues. .	241-8019	4246	
26 Mar. (85) . .	2 Mon. .	8 35 0	26 Mar. (85) . .	2 Mon. .	276-4415	4247	
26 Mar. (85) . .	3 Tues. .	14 47 30	15 Mar. (74) . .	6 Fri. .	152-1249	4248	
26 Mar. (85) . .	4 Wed. .	21 0 0	4 Mar. (63) . .	3 Tues. .	27-8084	4249	
26 Mar. (86) . .	6 Fri. .	3 12 30	22 Mar. (82) . .	2 Mon. .	62-4479	4250	
26 Mar. (85) . .	0 Sat. .	9 25 0	12 Mar. (71) . .	0 Sat. .	276-7631	4251	
26 Mar. (85) . .	1 Sun. .	15 37 30	1 Mar. (60) . .	4 Wed. .	152-4465	4252	
26 Mar. (85) . .	2 Mon. .	21 50 0	20 Mar. (79) . .	3 Tues. .	187-0861	4253	
26 Mar. (86) . .	4 Wed. .	4 2 30	8 Mar. (68) . .	0 Sat. .	62-7695	4254	
26 Mar. (85) . .	5 Thur. .	10 15 0	26 Feb. (57) . .	5 Thur. .	277-0848	4255	
26 Mar. (85) . .	6 Fri. .	16 27 30	17 Mar. (76) . .	4 Wed. .	311-7245	4256	
26 Mar. (85) . .	0 Sat. .	22 40 0	6 Mar. (65) . .	1 Sun. .	187-4078	4257	
26 Mar. (86) . .	2 Mon. .	4 52 30	24 Mar. (84) . .	0 Sat. .	222-0474	4258	
26 Mar. (85) . .	3 Tues. .	11 5 0	13 Mar. (72) . .	4 Wed. .	98-1308	4259	
26 Mar. (85) . .	4 Wed. .	17 17 30	3 Mar. (62) . .	2 Mon. .	312-0461	4260	
26 Mar. (85) . .	5 Thur. .	23 30 0	21 Mar. (80) . .	0 Sat. .	8-0538	4261	
26 Mar. (86) . .	0 Sat. .	5 42 30	10 Mar. (70) . .	5 Thur. .	222-3691	4262	
26 Mar. (85) . .	1 Sun. .	11 55 0	27 Feb. (58) . .	2 Mon. .	98-4525	4263	
26 Mar. (85) . .	2 Mon. .	18 7 30	18 Mar. (77) . .	1 Sun. .	132-6822	4264	
27 Mar. (86) . .	4 Wed. .	0 20 0	7 Mar. (66) . .	5 Thur. .	8-3755	4265	
26 Mar. (86) . .	5 Thur. .	6 32 30	25 Mar. (85) . .	4 Wed. .	43-0151	4266	
26 Mar. (85) . .	6 Fri. .	12 45 0	15 Mar. (74) . .	2 Mon. .	257-3504	4267	
26 Mar. (85) . .	0 Sat. .	18 57 30	4 Mar. (63) . .	6 Fri. .	133-0138	4268	
27 Mar. (86) . .	2 Mon. .	1 10 0	23 Mar. (82) . .	5 Thur. .	167-6434	4269	
26 Mar. (86) . .	3 Tues. .	7 22 30	11 Mar. (71) . .	2 Mon. .	43-3368	4270	

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitradī Vikrama.	Mēshādī solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4271	1002	1227	576	344-45	1169-70	23 Virōdhin .	27 Vijaya .	5 Śrāvapa .
4272	1093	1228	577	345-46	1170-71	24 Vikṛita .	28 Jaya .	...
4273	1094	1229	578	346-47	1171-72	25 Khara .	29 Manmatha .	...
4274	1095	1230	579	347-48	*1172-73	26 Nandana .	30 Durmukha .	2 Vaiśākha .
4275	1096	1231	580	348-49	1173-74	27 Vijaya .	31 Hēmalamba .	...
4276	1097	1232	581	349-50	1174-75	28 Jaya .	32 Vilamba .	10 Pausa .
4277	1098	1233	582	350-51	1175-76	29 Manmatha .	33 Vikārin .	...
4278	1099	1234	583	351-52	*1176-77	30 Durmukha .	34 Śārvarin .	...
4279	1100	1235	584	352-53	1177-78	31 Hēmalamba .	35 Plava .	7 Āsvina .
4280	1101	1236	585	353-54	1178-79	32 Vilamba .	36 Śubhakṛit .	...
4281	1102	1237	586	354-55	1179-80	33 Vikārin .	37 Śōbhana .	...
4282	1103	1238	587	355-56	*1180-81	34 Śārvarin .	38 Krōdhin .	3 Jyēshtha .
4283	1104	1239	588	356-57	1181-82	35 Plava .	39 Viśvāvasu .	...
4284	1105	1240	589	357-58	1182-83	36 Śubhakṛit .	40 Parābhava .	12 Phālguna .
4285	1106	1241	590	358-59	1183-84	37 Śōbhana .	41 Plavaṅga .	...
4286	1107	1242	591	359-60	*1184-85	38 Krōdhin .	42 Kilaka .	...
4287	1108	1243	592	360-61	1185-86	39 Viśvāvasu .	43 Saumya .	8 Kārttika .
4288	1109	1244	593	361-62	1186-87	40 Parābhava .	44 Sādhāraṇa .	...
4289	1110	1245	594	362-63	1187-88	41 Plavaṅga .	45 Virōdhakṛit .	...
4290	1111	1246	595	363-64	*1188-89	42 Kilaka .	46 Paridhāvin .	5 Śrāvapa .
4291	1112	1247	596	364-65	1189-90	43 Saumya .	47 Pramādin .	...
4292	1113	1248	597	365-66	1190-91	44 Sādhāraṇa .	48 Ānanda .	...
4293	1114	1249	598	366-67	1191-92	45 Virōdhakṛit .	49 Rākshasa .	1 Chaitra .
4294	1115	1250	599	367-68	*1192-93	46 Paridhāvin .	50 Anala .	...
4295	1116	1251	600	368-69	1193-94	47 Pramādin .	51 Piṅgala .	10 Pausa .

LXXVI—Contd.

1 Arya Siddhanta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Māsa-samkrānti.	Day and month, A.D.	Week-day.	$\alpha$ (here= $t$ , the index of the tithi).	
13	14	17	19	20	23	
		H. M. S.				1
26 Mar. (85) . . .	4 Wed. . .	13 35 0	1 Mar. (60) . . .	0 Sat. . .	257-6521	4271
26 Mar. (85) . . .	5 Thur. . .	19 47 30	20 Mar. (79) . . .	6 Fri. . .	292-2917	4272
27 Mar. (86) . . .	0 Sat. . .	2 0 0	9 Mar. (68) . . .	3 Tues. . .	167-9751	4273
26 Mar. (86) . . .	1 Sun. . .	8 12 30	26 Feb. (57) . . .	0 Sat. . .	43-6684	4274
26 Mar. (85) . . .	2 Mon. . .	14 25 0	16 Mar. (75) . . .	6 Fri. . .	78-2981	4275
26 Mar. (85) . . .	3 Tues. . .	20 37 30	6 Mar. (65) . . .	4 Wed. . .	292-6133	4276
27 Mar. (86) . . .	5 Thur. . .	2 50 0	25 Mar. (84) . . .	3 Tues. . .	327-2528	4277
26 Mar. (86) . . .	6 Fri. . .	9 2 30	13 Mar. (73) . . .	0 Sat. . .	202-9372	4278
26 Mar. (85) . . .	0 Sat. . .	15 15 0	2 Mar. (61) . . .	4 Wed. . .	78-6196	4279
26 Mar. (85) . . .	1 Sun. . .	21 27 30	21 Mar. (80) . . .	3 Tues. . .	113-2593	4280
27 Mar. (86) . . .	3 Tues. . .	3 40 0	11 Mar. (70) . . .	1 Sun. . .	327-5745	4281
26 Mar. (86) . . .	4 Wed. . .	9 52 30	28 Feb. (59) . . .	5 Thur. . .	203-2579	4282
26 Mar. (85) . . .	5 Thur. . .	16 5 0	18 Mar. (77) . . .	4 Wed. . .	237-8975	4283
26 Mar. (85) . . .	6 Fri. . .	22 17 30	7 Mar. (66) . . .	1 Sun. . .	113-5809	4284
27 Mar. (86) . . .	1 Sun. . .	4 30 0	26 Mar. (85) . . .	0 Sat. . .	148-2205	4285
26 Mar. (86) . . .	2 Mon. . .	10 42 30	14 Mar. (74) . . .	4 Wed. . .	23-9039	4286
26 Mar. (85) . . .	3 Tues. . .	16 55 0	4 Mar. (63) . . .	2 Mon. . .	238-2192	4287
26 Mar. (85) . . .	4 Wed. . .	23 7 30	23 Mar. (82) . . .	1 Sun. . .	272-8588	4288
27 Mar. (86) . . .	6 Fri. . .	5 20 0	12 Mar. (71) . . .	5 Thur. . .	148-5422	4289
26 Mar. (86) . . .	0 Sat. . .	11 32 30	29 Feb. (60) . . .	2 Mon. . .	24-2256	4290
26 Mar. (85) . . .	1 Sun. . .	17 45 0	19 Mar. (78) . . .	1 Sun. . .	58-8452	4291
26 Mar. (85) . . .	2 Mon. . .	23 57 30	9 Mar. (68) . . .	6 Fri. . .	273-1865	4292
27 Mar. (86) . . .	4 Wed. . .	6 10 0	26 Feb. (57) . . .	3 Tues. . .	148-8638	4293
26 Mar. (86) . . .	5 Thur. . .	12 22 30	16 Mar. (76) . . .	2 Mon. . .	183-5035	4294
26 Mar. (85) . . .	6 Fri. . .	18 35 0	5 Mar. (64) . . .	6 Fri. . .	59-1868	4295



TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshadi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4296	1117	1252	601	369-70	1194-95	48 Ānanda .	52 Kālayukta .	...
4297	1118	1253	602	370-71	1195-96	49 Rākshasa .	53 Siddhārthin .	...
4298	1119	1254	603	371-72	*1196-97	50 Anala .	54 Raudra .	6 Bhādrapada
4299	1120	1255	604	372-73	1197-98	51 Pīngala .	55 Durmati .	...
4300	1121	1256	605	373-74	1198-99	52 Kālayukta .	56 Dundubhi .	...
4301	1122	1257	606	374-75	1199-00	53 Siddhārthin .	57 Rudhīrōdgārin	3 Jyēṣṭha
4302	1123	1258	607	375-76	*1200-01	54 Raudra .	58 Raktāksha .	...
4303	1124	1259	608	376-77	1201-02	55 Durmati .	59 Krōdhana .	11 Māgha
4304	1125	1260	609	377-78	1202-03	56 Dundubhi .	60 Kshaya .	...
4305	1126	1261	610	378-79	1203-04	57 Rudhīrōdgārin	1 Prabhava .	...
4306	1127	1262	611	379-80	*1204-05	58 Raktāksha .	2 Vibhava .	8 Kārttika
4307	1128	1263	612	380-81	1205-06	59 Krōdhana .	3 Śukla .	...
4308	1129	1264	613	381-82	1206-07	60 Kshaya .	4 Pramōda .	...
4309	1130	1265	614	382-83	1207-08	1 Prabhava .	5 Prajāpati .	5 Śrāvaṇa
4310	1131	1266	615	383-84	*1208-09	2 Vibhava .	6 Aṅgiras .	...
4311	1132	1267	616	384-85	1209-10	3 Śukla .	7 Śrīmukha .	...
4312	1133	1268	617	385-86	1210-11	4 Pramōda .	8 Bhāva .	1 Chaitra
4313	1134	1269	618	386-87	1211-12	5 Prajāpati .	9 Yuvaṇ .	...
4314	1135	1270	619	387-88	*1212-13	6 Aṅgiras .	10 Dhātṛi .	10 Pausa
4315	1136	1271	620	388-89	1213-14	7 Śrīmukha .	11 Īśvara .	...
4316	1137	1272	621	389-90	1214-15	8 Bhāva .	12 Bahudhānya .	...
4317	1138	1273	622	390-91	1215-16	9 Yuvaṇ .	13 Pramāthin .	6 Bhādrapada
4318	1139	1274	623	391-92	*1216-17	10 Dhātṛi .	14 Vikrama .	...
4319	1140	1275	624	392-93	1217-18	11 Īśvara .	15 Vṛiṣha .	...
4320	1141	1276	625	393-94	1218-19	12 Bahudhānya .	16 Chitrabhāna .	3 Jyēṣṭha

LXXVI—Contd.

1 Arya Siddhanta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	a (here = i, the index of the tithi).	
13	14	17	19	20	23	1
		H. M. S.				
27 Mar. (86) . .	1 Sun. .	0 47 30	24 Mar. (83) . .	5 Thur. .	93-8264	4296
27 Mar. (86) . .	2 Mon. .	7 0 0	14 Mar. (73) . .	3 Tues. .	308-1417	4297
26 Mar. (86) . .	3 Tues. .	13 12 30	2 Mar. (62) . .	0 Sat. .	183-8251	4298
26 Mar. (85) . .	4 Wed. .	19 25 0	21 Mar. (80) . .	6 Fri. .	218-4647	4299
27 Mar. (86) . .	6 Fri. .	1 37 30	10 Mar. (69) . .	3 Tues. .	94-1481	4300
27 Mar. (86) . .	0 Sat. .	7 50 0	28 Feb. (59) . .	1 Sun. .	308-4634	4301
26 Mar. (86) . .	1 Sun. .	14 2 30	17 Mar. (77) . .	6 Fri. .	4-4711	4302
26 Mar. (85) . .	2 Mon. .	20 15 0	7 Mar. (66) . .	4 Wed. .	218-7864	4303
27 Mar. (86) . .	4 Wed. .	2 27 30	26 Mar. (85) . .	3 Tues. .	253-4359	4304
27 Mar. (86) . .	5 Thur. .	8 40 0	15 Mar. (74) . .	0 Sat. .	129-1004	4305
26 Mar. (86) . .	6 Fri. .	14 52 30	3 Mar. (63) . .	4 Wed. .	4-7927	4306
26 Mar. (85) . .	0 Sat. .	21 5 0	22 Mar. (81) . .	3 Tues. .	39-4324	4307
27 Mar. (86) . .	2 Mon. .	3 17 30	12 Mar. (71) . .	1 Sun. .	253-7477	4308
27 Mar. (86) . .	3 Tues. .	9 30 0	1 Mar. (60) . .	5 Thur. .	129-4311	4309
26 Mar. (86) . .	4 Wed. .	15 42 30	19 Mar. (79) . .	4 Wed. .	164-0707	4310
26 Mar. (85) . .	5 Thur. .	21 55 0	8 Mar. (67) . .	1 Sun. .	39-7540	4311
27 Mar. (86) . .	0 Sat. .	4 7 30	26 Feb. (57) . .	6 Fri. .	254-0603	4312
27 Mar. (86) . .	1 Sun. .	10 20 0	17 Mar. (76) . .	5 Thur. .	288-7089	4313
26 Mar. (86) . .	2 Mon. .	16 32 30	5 Mar. (65) . .	2 Mon. .	164-3923	4314
26 Mar. (85) . .	3 Tues. .	22 45 0	24 Mar. (83) . .	1 Sun. .	199-0319	4315
27 Mar. (86) . .	5 Thur. .	4 57 30	13 Mar. (72) . .	5 Thur. .	74-7152	4316
27 Mar. (86) . .	6 Fri. .	11 10 0	3 Mar. (62) . .	3 Tues. .	269-0306	4317
26 Mar. (86) . .	0 Sat. .	17 22 30	21 Mar. (81) . .	2 Mon. .	323-6702	4318
26 Mar. (85) . .	1 Sun. .	23 35 0	10 Mar. (69) . .	6 Fri. .	199-3535	4319
27 Mar. (86) . .	3 Tues. .	5 47 30	27 Feb. (58) . .	3 Tues. .	75-0369	4320

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4321	1142	1277	626	394-95	1219-20	13 Pramāthin .	17 Subhānu .	...
4322	1143	1278	627	395-96	*1220-21	14 Vikrama .	18 Tāraṇa .	11 Māgha .
4323	1144	1279	628	396-97	1221-22	15 Vṛisha .	19 Pārthiva .	...
4324	1145	1280	629	297-98	1222-23	16 Chitrabhānu .	20 Vyaya .	...
4325	1146	1281	630	398-99	1223-24	17 Subhānu .	21 Sarvajit .	8 Kārttika .
4326	1147	1282	631	399-00	*1224-25	18 Tāraṇa .	22 Sarvadhārin .	...
4327	1148	1283	632	400-01	1225-26	19 Pārthiva .	23 Virōdhin .	...
4328	1149	1284	633	401-02	1226-27	20 Vyaya .	24 Vikṛita .	4 Āshāḍha .
4329	1150	1285	634	402-03	1227-28	21 Sarvajit .	25 Khara .	...
4330	1151	1286	635	403-04	*1228-29	22 Sarvadhārin .	26 Nandana .	...
4331	1152	1287	636	404-05	1229-30	23 Virōdhin .	27 Vijaya .	1 Chaitra .
4332	1153	1288	637	405-06	1230-31	24 Vikṛita .	28 Jaya .	...
4333	1154	1289	638	406-07	1231-32	25 Khara .	29 Manmatha .	9 Mārgaśīra .
4334	1155	1290	639	407-08	*1232-33	26 Nandana .	30 Darmukha .	...
4335	1156	1291	640	408-09	1233-34	27 Vijaya .	31 Hēmalamba .	...
4336	1157	1292	641	409-10	1234-35	28 Jaya .	32 Vilamba .	6 Bhādrapada .
4337	1158	1293	642	410-11	1235-36	29 Manmatha .	33 Vikārin .	...
4338	1159	1294	643	411-12	*1236-37	30 Darmukha .	34 Sārvarin .	...
4339	1160	1295	644	412-13	1237-38	31 Hēmalamba .	35 Plava .	2 Vaiśākha .
4340	1161	1296	645	413-14	1238-39	32 Vilamba .	36 Subhakṛit .	...
4341	1162	1297	646	414-15	1239-40	33 Vikārin .	37 Śobhana .	11 Māgha .
4342	1163	1298	647	415-16	*1240-41	34 Sārvarin .	38 Krōdhin .	...
4343	1164	1299	648	416-17	1241-42	35 Plava .	39 Viśvāvaṇ .	...
4344	1165	1300	649	417-18	1242-43	36 Subhakṛit .	40 Parābhava .	7 Āśvina .
4345	1166	1301	650	418-19	1243-44	37 Śobhana .	41 Plavanga .	...

LXXVI—Contd.

1 Arya Siddhanta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti	Day and month, A.D.	Week-day.	$a$ (here= $t$ , the index of the tithi).	
13	14	17	19	20	23	1
		H. M. S.				
27 Mar. (86) . . .	4 Wed. . .	12 0 0	18 Mar. (77) . . .	2 Mon. . .	109-6765	4321
26 Mar. (86) . . .	5 Thur. . .	18 12 30	7 Mar. (67) . . .	0 Sat. . .	323-9918	4322
27 Mar. (86) . . .	0 Sat. . .	0 25 0	25 Mar. (84) . . .	5 Thur. . .	19-9995	4323
27 Mar. (86) . . .	1 Sun. . .	6 37 30	15 Mar. (74) . . .	3 Tues. . .	234-3148	4324
27 Mar. (86) . . .	2 Mon. . .	12 50 0	4 Mar. (63) . . .	0 Sat. . .	109-9982	4325
26 Mar. (86) . . .	3 Tues. . .	19 2 30	22 Mar. (82) . . .	6 Fri. . .	144-6378	4326
27 Mar. (86) . . .	5 Thur. . .	1 15 0	11 Mar. (70) . . .	3 Tues. . .	20-3212	4327
27 Mar. (86) . . .	6 Fri. . .	7 27 30	1 Mar. (60) . . .	1 Sun. . .	234-6365	4328
27 Mar. (86) . . .	0 Sat. . .	13 40 0	20 Mar. (79) . . .	0 Sat. . .	209-2761	4329
26 Mar. (86) . . .	1 Sun. . .	19 52 30	8 Mar. (68) . . .	4 Wed. . .	144-9594	4330
27 Mar. (86) . . .	3 Tues. . .	2 5 0	25 Feb. (56) . . .	1 Sun. . .	20-6428	4331
27 Mar. (86) . . .	4 Wed. . .	8 17 30	16 Mar. (75) . . .	0 Sat. . .	55-2824	4332
27 Mar. (86) . . .	5 Thur. . .	14 30 0	6 Mar. (65) . . .	5 Thur. . .	269-5977	4333
26 Mar. (86) . . .	6 Fri. . .	26 42 30	24 Mar. (84) . . .	4 Wed. . .	304-2373	4334
27 Mar. (86) . . .	1 Sun. . .	2 55 0	13 Mar. (72) . . .	1 Sun. . .	179-9207	4335
27 Mar. (86) . . .	2 Mon. . .	9 7 30	2 Mar. (61) . . .	5 Thur. . .	55-6041	4336
27 Mar. (86) . . .	3 Tues. . .	15 20 0	21 Mar. (89) . . .	4 Wed. . .	90-2437	4337
26 Mar. (86) . . .	4 Wed. . .	21 32 30	10 Mar. (70) . . .	2 Mon. . .	304-5590	4338
27 Mar. (86) . . .	6 Fri. . .	3 45 0	27 Feb. (58) . . .	6 Fri. . .	180-2424	4339
27 Mar. (86) . . .	0 Sat. . .	9 57 30	18 Mar. (77) . . .	5 Thur. . .	214-8820	4340
27 Mar. (86) . . .	1 Sun. . .	16 10 0	7 Mar. (66) . . .	2 Mon. . .	90-5654	4341
26 Mar. (86) . . .	2 Mon. . .	22 22 30	25 Mar. (85) . . .	1 Sun. . .	125-2049	4342
27 Mar. (86) . . .	4 Wed. . .	4 35 0	14 Mar. (73) . . .	5 Thur. . .	0-8884	4343
27 Mar. (86) . . .	5 Thur. . .	10 47 30	4 Mar. (63) . . .	3 Tues. . .	215-2037	4344
27 Mar. (86) . . .	6 Fri. . .	17 0 0	23 Mar. (82) . . .	2 Mon. . .	249-8433	4345

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4346	1167	1302	651	419-20	*1244-45	38 Krōdhin .	42 Kilaka .	...
4347	1168	1303	652	420-21	1245-46	39 Viśvāvasu .	43 Saumya† .	4 Āshāḍha .
4348	1169	1304	653	421-22	1246-47	40 Parābhava .	45 Virōdhakṛit .	...
4349	1170	1305	654	422-23	1247-48	41 Plavaṅga .	46 Paridhāvin .	...
4350	1171	1306	655	423-24	*1248-49	42 Kilaka .	47 Pramādin .	1 Chaitra .
4351	1172	1307	656	424-25	1249-50	43 Saumya. .	48 Ananda .	...
4352	1173	1308	657	425-26	1250-51	44 Sādhāraṇa .	49 Rākshasa .	9 Mārgaśīra .
4353	1174	1309	658	426-27	1251-52	45 Virōdhakṛit .	50 Anala .	...
4354	1175	1310	659	427-28	*1252-53	46 Paridhāvin .	51 Piṅgala .	...
4355	1176	1311	660	428-29	1253-54	47 Pramādin .	52 Kālayukta .	6 Bhādrapada
4356	1177	1312	661	429-30	1254-55	48 Ananda .	53 Siddhārthīn .	...
4357	1178	1313	662	430-31	1255-56	49 Rākshasa .	54 Raudra .	...
4358	1179	1314	663	431-32	*1256-57	50 Anala .	55 Durmati .	2 Vaiśākha .
4359	1180	1315	664	432-33	1257-58	51 Piṅgala .	56 Dundubhi .	...
4360	1181	1316	665	433-34	1258-59	52 Kālayukta .	57 Rudhirōdgārin	11 Māgha .
4361	1182	1317	666	434-35	1259-60	53 Siddhārthīn .	58 Raktāksha .	...
4362	1183	1318	667	435-36	*1260-61	54 Raudra .	59 Krōdhana .	...
4363	1184	1319	668	436-37	1261-62	55 Durmati .	60 Kshaya .	7 Āśvina .
4364	1185	1320	669	437-38	1262-63	56 Dundubhi .	1 Prabhava .	... *
4365	1186	1321	670	438-39	1263-64	57 Rudhirōdgārin	2 Vibhava .	...
4366	1187	1322	671	439-40	*1264-65	58 Raktāksha .	3 Śukla .	4 Āshāḍha .
4367	1188	1323	672	440-41	1265-66	59 Krōdhana .	4 Pramōda .	...
4368	1189	1324	673	441-42	1266-67	60 Kshaya .	5 Prajāpati .	12 Phālguna .
4369	1190	1325	674	442-43	1267-68	1 Prabhava .	6 Āngīras .	...
4370	1191	1326	675	443-44	*1268-69	2 Vibhava .	7 Śrīmukha .	...

† 44, Sādhāraṇa, was suppressed in the north by the mean system, but 45 Virōdhakṛit by the true system. By the latter system the year A.D. 1246-47 was called in the north, "Sādhāraṇa."

LXXVI—Contd.

1 Ārya Siddhanta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	$\alpha$ (here = $t$ , the index of the tithi).	
13	14	17	19	20	23	1
		H. M. S.				
26 Mar. (86) .	0 Sat. .	23 12 30	11 Mar. (71) .	6 Fri. .	125-5266	4346
27 Mar. (86) .	2 Mon. .	5 25 0	28 Feb. (59) .	3 Tues. .	1-2100	4347
27 Mar. (86) .	3 Tues. .	11 37 30	19 Mar. (78) .	2 Mon. .	35-8196	4348
27 Mar. (86) .	4 Wed. .	17 50 0	9 Mar. (68) .	0 Sat. .	250-1649	4349
27 Mar. (87) .	6 Fri. .	0 2 30	26 Feb. (57) .	4 Wed. .	125-8482	4350
27 Mar. (86) .	0 Sat. .	6 15 0	16 Mar. (75) .	3 Tues. .	160-4878	4351
27 Mar. (86) .	1 Sun. .	12 27 30	5 Mar. (64) .	0 Sat. .	36-1712	4352
27 Mar. (86) .	2 Mon. .	18 40 0	24 Mar. (83) .	6 Fri. .	70-8109	4353
27 Mar. (87) .	4 Wed. .	0 52 30	13 Mar. (73) .	4 Wed. .	285-1262	4354
27 Mar. (86) .	5 Thur. .	7 5 0	2 Mar. (61) .	1 Sun. .	160-8095	4355
27 Mar. (86) .	6 Fri. .	13 17 30	21 Mar. (80) .	0 Sat. .	195-4491	4356
27 Mar. (86) .	0 Sat. .	19 30 9	10 Mar. (69) .	4 Wed. .	71-1325	4357
27 Mar. (87) .	2 Mon. .	1 42 30	28 Feb. (59) .	2 Mon. .	285-4478	4358
27 Mar. (86) .	3 Tues. .	7 55 0	18 Mar. (77) .	1 Sun. .	320-0874	4359
27 Mar. (86) .	4 Wed. .	14 7 30	7 Mar. (66) .	5 Thur. .	195-7708	4360
27 Mar. (86) .	5 Thur. .	20 20 0	26 Mar. (85) .	4 Wed. .	230-4104	4361
27 Mar. (87) .	0 Sat. .	2 32 30	14 Mar. (74) .	1 Sun. .	106-0938	4362
27 Mar. (86) .	1 Sun. .	8 45 0	4 Mar. (63) .	6 Fri. .	320-4091	4363
27 Mar. (86) .	2 Mon. .	14 57 30	23 Mar. (81) .	4 Wed. .	16-4168	4364
27 Mar. (86) .	3 Tues. .	21 10 0	13 Mar. (71) .	2 Mon. .	230-7321	4365
27 Mar. (87) .	5 Thur. .	3 22 30	29 Feb. (60) .	6 Fri. .	106-4155	4366
27 Mar. (86) .	6 Fri. .	9 35 0	19 Mar. (78) .	5 Thur. .	141-0551	4367
27 Mar. (86) .	0 Sat. .	15 47 30	8 Mar. (67) .	2 Mon. .	16-7384	4368
27 Mar. (86) .	1 Sun. .	22 0 0	27 Mar. (86) .	1 Sun. .	51-3780	4369
27 Mar. (87) .	3 Tues. .	4 12 30	16 Mar. (76) .	6 Fri. .	265-6934	4370

TABLE

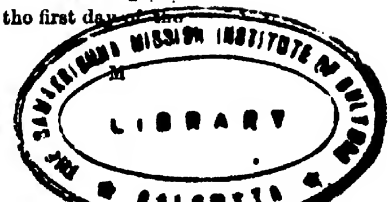
CONCURRENT YEAR.								
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		Mean Intercalated (adhika) lunar month.
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4371	1192	1327	676	444-45	1269-70	3 Śukla . .	8 Bhāva . .	9 Mārgaśīra .
4372	1193	1328	677	445-46	1270-71	4 Pramōda . .	9 Yuvan . .	...
4373	1194	1329	678	446-47	1271-72	5 Prajāpati . .	10 Dhātṛi . .	...
4374	1195	1330	679	447-48	*1272-73	6 Aṅgiras . .	11 Iśvara . .	5 Śrāvapa .
4375	1196	1331	680	448-49	1273-74	7 Śṛimukha . .	12 Bahudhānya .	...
4376	1197	1332	681	449-50	1274-75	8 Bhāva . .	13 Pramāthin .	...
4377	1198	1333	682	450-51	1275-76	9 Yuvan . .	14 Vikrama . .	2 Vaiśākha .
4378	1199	1334	683	451-52	*1276-77	10 Dhātṛi . .	15 Vṛisha . .	...
4379	1200	1335	684	452-53	1277-78	11 Iśvara . .	16 Chitrabhānu .	10 Pausa .
4380	1201	1336	685	453-54	1278-79	12 Bahudhānya .	17 Subhānu . .	...
4381	1202	1337	686	454-55	1279-80	13 Pramāthin .	18 Tārapa . .	...
4382	1203	1338	687	455-56	*1280-81	14 Vikrama . .	19 Pārthiva . .	7 Āśvina .
4383	1204	1339	688	456-57	1281-82	15 Vṛisha . .	20 Vyaya . .	...
4384	1205	1340	689	457-58	1282-83	16 Chitrabhānu .	21 Sarvajit . .	...
4385	1206	1341	690	458-59	1283-84	17 Subhānu . .	22 Sarvadhārin .	4 Āshādha .
4386	1207	1342	691	459-60	*1284-85	18 Tārapa . .	23 Virōdhin . .	...
4387	1208	1343	692	460-61	1285-86	19 Pārthiva . .	24 Vikṛita . .	12 Phālguna .
4388	1209	1344	693	461-62	1286-87	20 Vyaya . .	25 Khara . .	...
4389	1210	1345	694	462-63	1287-88	21 Sarvajit . .	26 Nandana . .	...
4390	1211	1346	695	463-64	*1288-89	22 Sarvadhārin .	27 Vijaya . .	9 Mārgaśīra .
4391	1212	1347	696	464-65	1289-90	23 Virōdhin . .	28 Jaya . .	...
4392	1213	1348	697	465-66	1290-91	24 Vikṛita . .	29 Manmatha . .	...
4393	1214	1349	698	466-67	1291-92	25 Khara . .	30 Dūrmukha . .	5 Śrāvapa .
4394	1215	1350	699	467-68	*1292-93	26 Nandana . .	31 Hēmalamba .	...
4395	1216	1351	700	468-69	1293-94	27 Vijaya . .	32 Vilamba . .	...

LXXVI—Contd.

1 Arya Siddhanta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	$a$ (here= $t$ , the index of the tithi).	
13	14	17	19	20	23	1
		H. M. S.				
27 Mar. (86) . .	4 Wed. . .	10 25 0	5 Mar. (84) . .	3 Tues. . .	141-3767	4371
27 Mar. (86) . .	5 Thur. . .	16 37 30	24 Mar. (83) . .	2 Mon. . .	176-0164	4372
27 Mar. (86) . .	6 Fri. . .	22 50 0	13 Mar. (72) . .	6 Fri. . .	51-6998	4373
27 Mar. (87) . .	1 Sun. . .	5 2 30	2 Mar. (82) . .	4 Wed. . .	266-0150	4374
27 Mar. (86) . .	2 Mon. . .	11 15 0	21 Mar. (80) . .	3 Tues. . .	300-6546	4375
27 Mar. (86) . .	3 Tues. . .	17 27 30	10 Mar. (69) . .	0 Sat. . .	176-3380	4376
27 Mar. (86) . .	4 Wed. . .	23 40 0	27 Feb. (58) . .	4 Wed. . .	52-0213	4377
27 Mar. (87) . .	6 Fri. . .	5 52 30	17 Mar. (77) . .	3 Tues. . .	86-6609	4378
27 Mar. (86) . .	0 Sat. . .	12 5 0	7 Mar. (66) . .	1 Sun. . .	300-9762	4379
27 Mar. (86) . .	1 Sun. . .	18 17 30	25 Mar. (84) . .	6 Fri. . .	9996-9840*	4380
28 Mar. (87) . .	3 Tues. . .	0 30 0	15 Mar. (74) . .	4 Wed. . .	211-2992	4381
27 Mar. (87) . .	4 Wed. . .	6 42 30	3 Mar. (63) . .	1 Sun. . .	86-9826	4382
27 Mar. (86) . .	5 Thur. . .	12 55 0	22 Mar. (81) . .	0 Sat. . .	121-6222	4383
27 Mar. (86) . .	6 Fri. . .	19 7 30	11 Mar. (70) . .	4 Wed. . .	9997-3056*	4384
28 Mar. (87) . .	1 Sun. . .	1 20 0	1 Mar. (60) . .	2 Mon. . .	211-6209	4385
27 Mar. (87) . .	2 Mon. . .	7 32 30	19 Mar. (79) . .	1 Sun. . .	246-2605	4386
27 Mar. (86) . .	3 Tues. . .	13 45 0	8 Mar. (67) . .	5 Thur. . .	121-9439	4387
27 Mar. (86) . .	4 Wed. . .	19 57 30	27 Mar. (86) . .	4 Wed. . .	156-5834	4388
28 Mar. (87) . .	6 Fri. . .	2 16 0	16 Mar. (75) . .	1 Sun. . .	32-2669	4389
27 Mar. (87) . .	0 Sat. . .	8 22 30	5 Mar. (65) . .	6 Fri. . .	246-5821	4390
27 Mar. (86) . .	1 Sun. . .	14 35 0	24 Mar. (83) . .	5 Thur. . .	281-2218	4391
27 Mar. (86) . .	2 Mon. . .	20 47 30	13 Mar. (72) . .	2 Mon. . .	156-9051	4392
28 Mar. (87) . .	4 Wed. . .	3 0 0	2 Mar. (61) . .	6 Fri. . .	32-5885	4393
27 Mar. (87) . .	5 Thur. . .	9 12 30	20 Mar. (80) . .	5 Thur. . .	67-2281	4394
27 Mar. (86) . .	6 Fri. . .	15 25 0	10 Mar. (69) . .	3 Tues. . .	281-5434	4395

\* As a mean tithi Chaitra Sukla 1 was expunged. The civil day corresponding to it, i.e., the first day of the luni-solar year was as given in cols. 19, 20.





TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Māshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4396	1217	1352	701	469-70	1294-95	28 Jaya . .	33 Vikārīn . .	2 Vaiśākha . .
4397	1218	1353	702	470-71	1295-96	29 Manmātha . .	34 Śārvarīn . .	...
4398	1219	1354	703	471-72	*1296-97	30 Durmukha . .	35 Plava . .	10 Pausa . .
4399	1220	1355	704	472-73	1297-98	31 Hēmalamba . .	36 Subhakarī . .	...
4400	1221	1356	705	473-74	1298-99	32 Vilamba . .	37 Śobhana . .	...
4401	1222	1357	706	474-75	1299-00	33 Vikārīn . .	38 Krōdhīn . .	7 Āśvina . .
4402	1223	1358	707	475-76	*1300-01	34 Śārvarīn . .	39 Viśvāvasa . .	...
4403	1224	1359	708	476-77	1301-02	35 Plava . .	40 Parābhava . .	...
4404	1225	1360	709	477-78	1302-03	36 Subhakarī . .	41 Plavaṅga . .	3 Jyēṣṭha . .
4405	1226	1361	710	478-79	1303-04	37 Śobhana . .	42 Kilaka . .	...
4406	1227	1362	711	479-80	*1304-05	38 Krōdhīn . .	43 Saumya . .	12 Phālguna . .
4407	1228	1363	712	480-81	1305-06	39 Viśvāvasa . .	44 Śādhārāṇa . .	...
4408	1229	1364	713	481-82	1306-07	40 Parābhava . .	45 Virōdhakarī . .	...
4409	1230	1365	714	482-83	1307-08	41 Plavaṅga . .	46 Paridhāvin . .	8 Kārtika . .
4410	1231	1366	715	483-84	*1308-09	42 Kilaka . .	47 Pramādin . .	...
4411	1232	1367	716	484-85	1309-10	43 Saumya . .	48 Ānanda . .	...
4412	1233	1368	717	485-86	1310-11	44 Śādhārāṇa . .	49 Rākṣasa . .	5 Śrāvaṇa . .
4413	1234	1369	718	486-87	1311-12	45 Virōdhakarī . .	50 Anala . .	...
4414	1235	1370	719	487-88	*1312-13	46 Paridhāvin . .	51 Piṅgala . .	...
4415	1236	1371	720	488-89	1313-14	47 Pramādin . .	52 Kālayukta . .	1 Chaitra . .
4416	1237	1372	721	489-90	1314-15	48 Ānanda . .	53 Siddhārthīn . .	...
4417	1238	1373	722	490-91	1315-16	49 Rākṣasa . .	54 Raudra . .	10 Pausa . .
4418	1239	1374	723	491-92	*1316-17	50 Anala . .	55 Durmāṣi . .	...
4419	1240	1375	724	492-93	1317-18	51 Piṅgala . .	56 Dundabhi . .	...
4420	1241	1376	725	493-94	1318-19	52 Kālayukta . .	57 Rudhrōdgārīn . .	7 Āśvina . .

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	a (here = t, the index of the tithi).	
13	14	17	19	20	23	1
		H. M. S.				
27 Mar. (86) .	0 Sat. .	21 37 40	27 Feb. (58) .	0 Sat. .	157-2268	4396
28 Mar. (87) .	2 Mon. .	3 50 0	18 Mar. (77) .	6 Fri. .	191-8664	4397
27 Mar. (87) .	3 Tues. .	10 2 30	6 Mar. (66) .	3 Tues. .	67-5498	4398
27 Mar. (86) .	4 Wed. .	16 15 0	25 Mar. (84) .	2 Mon. .	102-1894	4399
27 Mar. (86) .	5 Thur. .	22 27 30	15 Mar. (74) .	0 Sat. .	316-5047	4400
28 Mar. (87) .	0 Sat. .	4 40 0	4 Mar. (68) .	4 Wed. .	192-1881	4401
27 Mar. (87) .	1 Sun. .	10 52 30	22 Mar. (82) .	3 Tues. .	224-8277	4402
27 Mar. (86) .	2 Mon. .	17 5 0	11 Mar. (70) .	0 Sat. .	102-5111	4403
27 Mar. (86) .	3 Tues. .	23 17 30	1 Mar. (60) .	5 Thur. .	316-8264	4404
28 Mar. (87) .	5 Thur. .	5 30 0	19 Mar. (78) .	3 Tues. .	12-8341	4405
27 Mar. (87) .	6 Fri. .	11 42 30	8 Mar. (68) .	1 Sun. .	227-1494	4406
27 Mar. (86) .	0 Sat. .	17 55 0	27 Mar. (86) .	0 Sat. .	261-7889	4407
28 Mar. (87) .	2 Mon. .	0 7 30	16 Mar. (75) .	4 Wed. .	137-4728	4408
28 Mar. (87) .	3 Tues. .	6 20 0	5 Mar. (64) .	1 Sun. .	13-1558	4409
27 Mar. (87) .	4 Wed. .	12 32 30	23 Mar. (82) .	0 Sat. .	47-7954	4410
27 Mar. (86) .	5 Thur. .	18 45 0	13 Mar. (72) .	5 Thur. .	262-1106	4411
28 Mar. (87) .	0 Sat. .	0 57 30	2 Mar. (61) .	2 Mon. .	137-7940	4412
28 Mar. (87) .	1 Sun. .	7 10 0	21 Mar. (80) .	1 Sun. .	172-4337	4413
27 Mar. (87) .	2 Mon. .	13 22 30	9 Mar. (69) .	5 Thur. .	48-1170	4414
27 Mar. (86) .	3 Tues. .	19 35 0	27 Feb. (58) .	3 Tues. .	262-4322	4415
28 Mar. (87) .	5 Thur. .	1 47 30	18 Mar. (77) .	2 Mon. .	297-0719	4416
28 Mar. (87) .	6 Fri. .	8 0 0	7 Mar. (66) .	6 Fri. .	172-7553	4417
27 Mar. (87) .	0 Sat. .	14 12 30	25 Mar. (85) .	5 Thur. .	207-3949	4418
27 Mar. (86) .	1 Sun. .	20 25 0	14 Mar. (73) .	2 Mon. .	83-0562	4419
28 Mar. (87) .	3 Tues. .	2 37 30	4 Mar. (62) .	0 Sat. .	297-3935	4420

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4421	1242	1377	726	494-95	1319-20	53 Siddhārthin .	58 Raktāksha .	...
4422	1243	1378	727	495-96	*1320-21	54 Raudra .	59 Krōdhana .	...
4423	1244	1379	728	496-97	1321-22	55 Durmati .	60 Kshaya .	3 Jyēshṭha .
4424	1245	1380	729	497-98	1322-23	56 Dundubhi .	1 Prabhava .	...
4425	1246	1381	730	498-99	1323-24	57 Rudhirōdgārin	2 Vibhava .	12 Phālguna .
4426	1247	1382	731	499-00	*1324-25	58 Raktāksha .	3 Śukla .	...
4427	1248	1383	732	500-01	1325-26	59 Krōdhana .	4 Pramōda .	...
4428	1249	1384	733	501-02	1326-27	60 Kshaya .	5 Prajāpati .	8 Kārttika .
4429	1250	1385	734	502-03	1327-28	1 Prabhava .	6 Aṅgiras .	...
4430	1251	1386	735	503-04	*1328-29	2 Vibhava .	7 Śrīmukha .	...
4431	1252	1387	736	504-05	1329-30	3 Śukla .	8 Bhāva .	5 Śrāvaṇa .
4432	1253	1388	737	505-06	1330-31	4 Pramōda .	9 Yuvan† .	...
4433	1254	1389	738	506-07	1331-32	5 Prajāpati .	11 Īvara .	...
4434	1255	1390	739	507-08	*1332-33	6 Aṅgiras .	12 Bahudhānya .	1 Chaitra .
4435	1256	1391	740	508-09	1333-34	7 Śrīmukha .	13 Pramāthin .	...
4436	1257	1392	741	509-10	1334-35	8 Bhāva .	14 Vikrama .	10 Pausha .
4437	1258	1393	742	510-11	1335-36	9 Yuvan .	15 Vṛisha .	...
4438	1259	1394	743	511-12	*1336-37	10 Dhātṛi .	16 Chitrabhānu .	...
4439	1260	1395	744	512-13	1337-38	11 Īvara .	17 Subhānu .	6 Bhādrapada .
4440	1261	1396	745	513-14	1338-39	12 Bahudhānya .	18 Tāraṇa .	...
4441	1262	1397	746	514-15	1339-40	13 Pramāthin .	19 Pārthiva .	...
4442	1263	1398	747	515-16	*1340-41	14 Vikrama .	20 Vyaya .	3 Jyēshṭha .
4443	1264	1399	748	516-17	1341-42	15 Vṛisha .	21 Sarvajit .	...
4444	1265	1400	749	517-18	1342-43	16 Chitrabhānu .	22 Sarvadhārin .	11 Māgha .
4445	1266	1401	750	518-19	1343-44	17 Subhānu .	23 Virōdhin .	...

† 10 Dhātṛi was suppressed in the north by the mean system, but 11 Īvara by the true system. The year A.D. 1331-32 was by the latter system called "10 Dhātṛi" in the north.

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

COMMENCEMENT OF THE							Kali year.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITHRA ŚUKLA 1 ENDS).				
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	$a$ (here= $t$ , the index of the tithi).		
13	14	17	19	20	23		
		H. M. S.				1	
28 Mar. (87) . .	4 Wed. .	8 50 0	23 Mar. (82) .	6 Fri. .	332-0331	4421	
27 Mar. (87) . .	5 Thur. .	15 2 30	11 Mar. (71) .	3 Tues. .	207-7165	4422	
27 Mar. (86) . .	6 Fri. .	21 15 0	28 Feb. (59) .	0 Sat. .	83-3999	4423	
28 Mar. (87) . .	1 Sun. .	3 27 30	19 Mar. (78) .	6 Fri. .	118-0395	4424	
28 Mar. (87) . .	2 Mon. .	9 40 0	9 Mar. (68) .	4 Wed. .	332-3547	4425	
27 Mar. (87) . .	3 Tues. .	15 52 30	26 Mar. (86) .	2 Mon. .	28-3624	4426	
27 Mar. (86) . .	4 Wed. .	22 5 0	16 Mar. (75) .	0 Sat. .	242-6778	4427	
28 Mar. (87) . .	6 Fri. .	4 17 30	5 Mar. (64) .	4 Wed. .	118-3612	4428	
28 Mar. (87) . .	0 Sat. .	10 30 0	24 Mar. (83) .	3 Tues. .	153-0008	4429	
27 Mar. (87) . .	1 Sun. .	16 42 30	12 Mar. (72) .	0 Sat. .	28-7841	4430	
27 Mar. (86) . .	2 Mon. .	22 55 0	2 Mar. (61) .	5 Thur. .	242-9995	4431	
28 Mar. (87) . .	4 Wed. .	5 7 30	21 Mar. (80) .	4 Wed. .	277-6391	4432	
28 Mar. (87) . .	5 Thur. .	11 20 0	10 Mar. (69) .	1 Sun. .	153-3224	4433	
27 Mar. (87) . .	6 Fri. .	17 32 30	27 Feb. (58) .	5 Thur. .	29-0058	4434	
27 Mar. (86) . .	0 Sat. .	23 45 0	17 Mar. (76) .	4 Wed. .	63-6455	4435	
28 Mar. (87) . .	2 Mon. .	5 57 30	7 Mar. (66) .	2 Mon. .	277-9607	4436	
28 Mar. (87) . .	3 Tues. .	12 10 0	25 Mar. (85) .	1 Sun. .	312-6003	4437	
27 Mar. (87) . .	4 Wed. .	18 22 30	14 Mar. (74) .	5 Thur. .	188-2837	4438	
28 Mar. (87) . .	6 Fri. .	0 35 0	3 Mar. (62) .	2 Mon. .	63-9689	4439	
28 Mar. (87) . .	0 Sat. .	6 47 30	22 Mar. (81) .	1 Sun. .	98-6067	4440	
28 Mar. (87) . .	1 Sun. .	13 0 0	12 Mar. (71) .	6 Fri. .	312-9231	4441	
27 Mar. (87) . .	2 Mon. .	19 12 30	29 Feb. (60) .	3 Tues. .	188-6054	4442	
28 Mar. (87) . .	4 Wed. .	1 25 0	19 Mar. (78) .	2 Mon. .	223-2350	4443	
28 Mar. (87) . .	5 Thur. .	7 37 30	8 Mar. (67) .	6 Fri. .	98-9284	4444	
28 Mar. (87) . .	6 Fri. .	13 50 0	27 Mar. (86) .	5 Thur. .	133-5679	4445	

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSAHA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4446	1267	1402	751	519-20	*1344-45	18 Tārana . .	24 Vikṛita . .	...
4447	1268	1403	752	520-21	1345-46	19 Pārthiva . .	25 Khara . .	8 Kārttika .
4448	1269	1404	753	521-22	1346-47	20 Vyaya . .	26 Nandana . .	...
4449	1270	1405	754	522-23	1347-48	21 Sarvajit . .	27 Vijaya . .	...
4450	1271	1406	755	523-24	*1348-49	22 Sarvadhārin .	28 Jaya . .	4 Āshādha .
4451	1272	1407	756	524-25	1349-50	23 Virōdhin . .	29 Manmatha . .	...
4452	1273	1408	757	525-26	1350-51	24 Vikṛita . .	30 Durmukha . .	...
4453	1274	1409	758	526-27	1351-52	25 Khara . .	31 Hēmalamba . .	1 Chaitra .
4454	1275	1410	759	527-28	*1352-53	26 Nandana . .	32 Vilamba . .	...
4455	1276	1411	760	528-29	1353-54	27 Vijaya . .	33 Vikārin . .	9 Mārgaśīra .
4456	1277	1412	761	529-30	1354-55	28 Jaya . .	34 Śārvarin . .	...
4457	1278	1413	762	530-31	1355-56	29 Manmatha . .	35 Plava . .	...
4458	1279	1414	763	531-32	*1356-57	30 Durmukha . .	36 Subhākṛit . .	6 Bhādrapada
4459	1280	1415	764	532-33	1357-58	31 Hēmalamba . .	37 Śōbhana . .	...
4460	1281	1416	765	533-34	1358-59	32 Vilamba . .	38 Krōdhin . .	...
4461	1282	1417	766	534-35	1359-60	33 Vikārin . .	39 Viśvāvasu . .	3 Jyēṣṭha .
4462	1283	1418	767	535-36	*1360-61	34 Śārvarin . .	40 Parābhava . .	...
4463	1284	1419	768	536-37	1361-62	35 Plava . .	41 Plavaṅga . .	11 Māgha .
4464	1285	1420	769	537-38	1362-63	36 Subhākṛit . .	42 Kilaka . .	...
4465	1286	1421	770	538-39	1363-64	37 Śōbhana . .	43 Saumya . .	...
4466	1287	1422	771	539-40	*1364-65	38 Krōdhin . .	44 Sādhāraṇa . .	8 Kārttika .
4467	1288	1423	772	540-41	1365-66	39 Viśvāvasu . .	45 Virōdhakṛit . .	...
4468	1289	1424	773	541-42	1366-67	40 Parābhava . .	46 Paridhāvin . .	...
4469	1290	1425	774	542-43	1367-68	41 Plavaṅga . .	47 Pramādin . .	4 Āshādha .
4470	1291	1426	775	543-44	*1368-69	42 Kilaka . .	48 Ānanda . .	...

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

COMMENCEMENT OF THE							Kali year.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS)				
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	a (here = t, the index of the tithi).		
13	14	17	19	20	23	1	
		H. M. S.					
27 Mar. (87) . .	0 Sat. .	20 2 30	15 Mar. (75) .	2 Mon. .	9-2513	4446	
28 Mar. (87) . .	2 Mon. .	2 15 0	5 Mar. (64) .	0 Sat. .	223-5666	4447	
28 Mar. (87) . .	3 Tues. .	8 27 30	24 Mar. (83) .	6 Fri. .	258-2062	4448	
28 Mar. (87) . .	4 Wed. .	14 40 0	13 Mar. (72) .	3 Tues. .	133-9897	4449	
27 Mar. (87) . .	5 Thur. .	20 52 30	1 Mar. (61) .	0 Sat. .	9-5730	4450	
28 Mar. (87) . .	0 Sat. .	3 5 0	20 Mar. (79) .	6 Fri. .	44-2126	4451	
28 Mar. (87) . .	1 Sun. .	9 17 30	10 Mar. (69) .	4 Wed. .	258-5279	4452	
28 Mar. (87) . .	2 Mon. .	15 30 0	27 Feb. (58) .	1 Sun. .	134-2112	4453	
27 Mar. (87) . .	3 Tues. .	21 42 30	17 Mar. (77) .	0 Sat. .	168-8509	4454	
28 Mar. (87) . .	5 Thur. .	3 55 0	6 Mar. (65) .	4 Wed. .	44-5342	4455	
28 Mar. (87) . .	6 Fri. .	10 7 30	25 Mar. (84) .	3 Tues. .	79-1738	4456	
28 Mar. (87) . .	0 Sat. .	16 20 0	15 Mar. (74) .	1 Sun. .	293-4891	4457	
27 Mar. (87) . .	1 Sun. .	22 32 30	3 Mar. (63) .	5 Thur. .	169-1725	4458	
28 Mar. (87) . .	3 Tues. .	4 45 0	22 Mar. (81) .	4 Wed. .	203-8121	4459	
28 Mar. (87) . .	4 Wed. .	10 57 30	11 Mar. (70) .	1 Sun. .	79-4955	4460	
28 Mar. (87) . .	5 Thur. .	17 10 0	1 Mar. (60) .	6 Fri. .	293-8108	4461	
27 Mar. (87) . .	6 Fri. .	23 22 30	19 Mar. (79) .	5 Thur. .	328-4504	4462	
28 Mar. (87) . .	1 Sun. .	5 35 0	8 Mar. (67) .	2 Mon. .	204-1338	4463	
28 Mar. (87) . .	2 Mon. .	11 47 30	27 Mar. (86) .	1 Sun. .	238-7731	4464	
28 Mar. (87) . .	3 Tues. .	18 0 0	16 Mar. (75) .	5 Thur. .	114-4568	4465	
28 Mar. (88) . .	5 Thurs. .	0 12 30	5 Mar. (65) .	3 Tues. .	328-7721	4466	
28 Mar. (87) . .	6 Fri. .	6 25 0	23 Mar. (82) .	1 Sun. .	24-7798	4467	
28 Mar. (87) . .	0 Sat. .	12 37 30	13 Mar. (72) .	6 Fri. .	239-0951	4468	
28 Mar. (87) . .	1 Sun. .	18 50 0	2 Mar. (61) .	3 Tues. .	114-7785	4469	
28 Mar. (88) . .	3 Tues. .	1 2 30	20 Mar. (80) .	2 Mon. .	149-4181	4470	

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4471	1292	1427	776	544-45	1369-70	43 Saumya .	49 Rākshasa .	...
4472	1293	1428	777	545-46	1370-71	44 Sādhāraṇa .	50 Anala .	1 Chaitra .
4473	1294	1429	778	546-47	1371-72	45 Virōdhakṛit .	51 Piṅgala .	...
4474	1295	1430	779	547-48	*1372-73	46 Paridhāvin .	52 Kālayukta .	9 Mārgaśīra .
4475	1296	1431	780	548-49	1373-74	47 Pramādin .	53 Siddhārthin .	...
4476	1297	1432	781	549-50	1374-75	48 Ānanda .	54 Raudra .	...
4477	1298	1433	782	550-51	1375-76	49 Rākshasa .	55 Durmati .	6 Bhādrapada
4478	1299	1434	783	551-52	*1376-77	50 Anala .	56 Dundubhi .	...
4479	1300	1435	784	552-53	1377-78	51 Piṅgala .	57 Rudhirōdgārin	...
4480	1301	1436	785	553-54	1378-79	52 Kālayukta .	58 Raktāksha .	2 Vaiśakha .
4481	1302	1437	786	554-55	1379-80	53 Siddhārthin .	59 Krōdhana .	...
4482	1303	1438	787	555-56	*1380-81	54 Raudra .	60 Kshaya .	11 Māgha .
4483	1304	1439	788	556-57	1381-82	55 Durmati .	1 Prabhava .	...
4484	1305	1440	789	557-58	1382-83	56 Dundubhi .	2 Vibhava .	...
4485	1306	1441	790	558-59	1383-84	57 Rudhirōdgārin	3 Śukla .	7 Āśvina .
4486	1307	1442	791	559-60	*1384-85	58 Raktāksha .	4 Pramōda .	...
4487	1308	1443	792	560-61	1385-86	59 Krōdhana .	5 Prajāpati .	...
4488	1309	1444	793	561-62	1386-87	60 Kshaya .	6 Āṅgiras .	4 Āshāḍha .
4489	1310	1445	794	562-63	1387-88	1 Prabhava .	7 Śrīmukha .	...
4490	1311	1446	795	563-64	*1388-89	2 Vibhava .	8 Bhāva .	12 Phālguna .
4491	1312	1447	796	564-65	1389-90	3 Śukla .	9 Yuvan .	...
4492	1313	1448	797	565-66	1390-91	4 Pramōda .	10 Dhātṛi .	...
4493	1314	1449	798	566-67	1391-92	5 Prajāpati .	11 Īśvara .	9 Mārgaśīra .
4494	1315	1450	799	567-68	*1392-93	6 Āṅgiras .	12 Bahudhānya .	...
4495	1316	1451	800	568-69	1393-94	7 Śrīmukha .	13 Pramāthin .	...

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| Royal Asiatic Society, No. 22, Albemarle Street, London.                    | Royal Academy of Hungary, Buda-Pest.                                   |
| Philological Society, University College, Gower Street, London, W.C.        | Imperial Academy of Science, Vienna.                                   |
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| Royal Society of Antiquaries, Edinburgh.                                    | North China Branch of the Royal Asiatic Society, Shanghai.             |
| Royal Society of Antiquaries, Ireland, 17, Highfield Road, Rathgar, Dublin. | Smithsonian Institution, Washington, D. C., U. S. A.                   |
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| Conservateur du Musée Guimet, Paris.  | Vajirana National Library, Bangkok.                                    |
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Asiatic Society of Bengal, ditto.	Panini Office, Allahabad.
Secretariat Library, Allahabad.	Central Hindu College Library, Benares.
University Library, ditto.	Queen's College Library, Benares.
Provincial Museum, Lucknow.	Canning College Library, Lucknow.
Sanskrit College Library, Benares.	Archaeological Museum Library, Muttra.
Secretariat Library, Lahore.	Forman Christian College Library, Lahore.
Museum Library, ditto.	Government College Library, Lahore.
University Library, ditto.	Punjab Historical Society, Lahore.
Oriental College Library, Lahore.	Punjab Public Library, Lahore.
Secretariat Library, Nagpur.	Museum Library, Delhi.
Museum Library, ditto.	Public Library, Delhi.
Secretariat Library, Rangoon.	Peshawar Museum Library, Peshawar.
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Department of Education Library, Delhi.	Secretariat Library, Shillong.
Government College Library, Kumbakonam.	Government College Library, Jubbulpore.
Pachaiyappa's College Library, Madras.	Chief Commissioner of Coorg's Library, Bangalore.
The Connemara Public Library, Madras.	Rajkumar College Library, Indore.
Sanskrit College Library, Mylapore.	Rajputana Museum Library, Ajmer.
Government College Library, Rajahmundry.	Library of the Resident at Baroda.
Maharajah's College Library, Trivandrum.	Baroda Museum Library, Baroda.
Sanskrit College Library, Tiruvadi (Tanjore).	Gwalior Darbar Library, Gwalior.
Maharajah's College Library, Vizayanagaram.	Bhuri Singh Museum Library, Chamba.
Elphinstone College Library, Bombay.	Indian Antiquary, c/o the British India Press, Mazagaon, Bombay.
Prince of Wales Museum Library, Bombay.	

LXXVI—Contd.

1 Ārya Siddhānta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mōsha-samkrānti.	Day and month, A.D.	Week-day.	a (here= <i>t</i> , the index of the tithi).	
13	14	17	19	20	23	
		H. M. S.				
28 Mar. (87) . .	4 Wed. . .	7 15 0	9 Mar. (68) . .	6 Fri. . .	25-1015	4471
28 Mar. (87) . .	5 Thur. . .	13 27 30	27 Feb. (58) . .	4 Wed. . .	239-4167	4472
28 Mar. (87) . .	6 Fri. . .	19 40 0	18 Mar. (77) . .	3 Tues. . .	274-0564	4473
28 Mar. (88) . .	1 Sun. . .	1 52 30	6 Mar. (66) . .	0 Sat. . .	149-7397	4474
28 Mar. (87) . .	2 Mon. . .	8 5 0	25 Mar. (84) . .	6 Fri. . .	184-3794	4475
28 Mar. (87) . .	3 Tues. . .	14 17 30	14 Mar. (73) . .	3 Tues. . .	60-0627	4476
28 Mar. (87) . .	4 Wed. . .	20 30 0	4 Mar. (63) . .	1 Sun. . .	274-3779	4477
28 Mar. (88) . .	6 Fri. . .	2 42 30	22 Mar. (82) . .	0 Sat. . .	309-0176	4478
28 Mar. (87) . .	0 Sat. . .	8 55 0	11 Mar. (70) . .	4 Wed. . .	184-7009	4479
28 Mar. (87) . .	1 Sun. . .	15 7 30	28 Feb. (59) . .	1 Sun. . .	60-3844	4480
28 Mar. (87) . .	2 Mon. . .	21 20 0	19 Mar. (78) . .	0 Sat. . .	95-0230	4481
28 Mar. (88) . .	4 Wed. . .	3 32 30	8 Mar. (68) . .	5 Thur. . .	309-3392	4482
28 Mar. (87) . .	5 Thur. . .	9 45 0	26 Mar. (85) . .	3 Tues. . .	5-3469	4483
28 Mar. (87) . .	6 Fri. . .	15 57 30	16 Mar. (75) . .	1 Sun. . .	219-6622	4484
28 Mar. (87) . .	0 Sat. . .	22 10 0	5 Mar. (64) . .	5 Thur. . .	95-3456	4485
28 Mar. (88) . .	2 Mon. . .	4 22 30	23 Mar. (83) . .	4 Wed. . .	129-9852	4486
28 Mar. (87) . .	3 Tues. . .	10 35 0	12 Mar. (71) . .	1 Sun. . .	5-6686	4487
28 Mar. (87) . .	4 Wed. . .	16 47 30	2 Mar. (61) . .	6 Fri. . .	219-9839	4488
28 Mar. (87) . .	5 Thur. . .	23 0 0	21 Mar. (80) . .	5 Thur. . .	254-6235	4489
28 Mar. (88) . .	0 Sat. . .	5 12 30	9 Mar. (69) . .	2 Mon. . .	130-3069	4490
28 Mar. (87) . .	1 Sun. . .	11 25 0	28 Mar. (87) . .	1 Sun. . .	164-9464	4491
28 Mar. (87) . .	2 Mon. . .	17 37 30	17 Mar. (76) . .	5 Thur. . .	40-6298	4492
28 Mar. (87) . .	3 Tues. . .	23 50 0	7 Mar. (66) . .	3 Tues. . .	254-9451	4493
28 Mar. (88) . .	5 Thur. . .	6 2 30	25 Mar. (85) . .	2 Mon. . .	289-5848	4494
28 Mar. (87) . .	6 Fri. . .	12 15 0	14 Mar. (73) . .	6 Fri. . .	165-2681	4495

TABLE

CONCURRENT YEAR.								Mean Intercalated (adhika) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SĀMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4496	1317	1452	801	569-70	1394-95	8 Bhāva . .	14 Vikrama . .	6 Bhādrapada
4497	1318	1453	802	570-71	1395-96	9 Yuvan . .	15 Vṛiṣha . .	...
4498	1319	1454	803	571-72	*1396-97	10 Dhātṛi . .	16 Chitrabhanu . .	...
4499	1320	1455	804	572-73	1397-98	11 Īsvara . .	17 Subhānu . .	2 Vaiśākha . .
4500	1321	1456	805	573-74	1398-99	12 Bahudhanya . .	18 Tārana . .	...
4501	1322	1457	806	574-75	1399-00	13 Pramāthin . .	19 Pārthiva . .	11 Māgha . .
4502	1323	1458	807	575-76	*1400-01	14 Vikrama . .	20 Vyaya . .	...

LXXVI—*Concl'd.*

1 Ārya Siddhanta, mean system.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali year.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	<i>a</i> (here= <i>t</i> , the index of the tithi).	
13	14	17	19	20	23	
		H. M. S.				1
28 Mar. (87) . .	0 Sat. .	18 27 30	3 Mar. (62) . .	3 Tues. .	40-9515	4496
29 Mar. (88) . .	2 Mon. .	0 40 0	22 Mar. (81) . .	2 Mon. .	75-5912	4497
28 Mar. (88) . .	3 Tues. .	6 52 30	11 Mar. (71) . .	0 Sat. .	289-9064	4498
28 Mar. (87) . .	4 Wed. .	13 5 0	28 Feb. (59) . .	4 Wed. .	105-5898	4499
28 Mar. (87) . .	5 Thur. .	19 17 30	19 Mar. (78) . .	3 Tues. .	200-2294	4500
29 Mar. (88) . .	0 Sat. .	1 30 0	8 Mar. (67) . .	0 Sat. .	75-9127	4501
28 Mar. (88) . .	1 Sun. .	7 42 30	26 Mar. (86) . .	6 Fri. .	110-5523	4502

TABLE LXXVII.

DURATION AND COLLECTIVE DURATION OF MEAN SOLAR MONTHS ACCORDING TO THE FIRST ĀRYA SIDDHĀNTA, WITH INCREASE OF  $a$  AT EACH SAMKRĀNTI.

Mean luni-solar month, ending after the second of the two solar samkrāntis connected with it.	At the mean solar samkrāntis.	Collective duration in time and collective increase of $a$ from mean Māsha-samkrānti to the several samkrāntis.			
		Day.	Week-day.	H. M. S.	$a$
1	2	3			4
1. Chaitra . . .	{ Mīna-samk. (of previous year).				
2. Vaiśākha . . .	{ Mēsha-samk. . .	0	0	0 0 0	0
3. Jyēshtha . . .	{ Vṛishabha-samk. . .	30	(2)	10 31 2½	307·3520
4. Āshāḍha . . .	{ Mithuna-samk. . .	60	(4)	21 2 5	614·7052
5. Śrāvaṇa . . .	{ Karka-samk. . .	91	(0)	7 33 7½	922·0579
6. Bhādrapada . . .	{ Simha-samk. . .	121	(2)	18 4 10	1220·4105
7. Āsvina . . .	{ Kanyā-samk. . .	152	(5)	4 35 12½	1536·7631
8. Kārttika . . .	{ Tulā-samk. . .	182	(0)	15 6 15	1844·1157
9. Mārgaśīra . . .	{ Vṛiśchika-samk. . .	213	(3)	1 37 17½	2151·4684
10. Pausha . . .	{ Dhanus-samk. . .	243	(5)	12 8 20	2458·8210
11. Māgha . . .	{ Makara-samk. . .	273	(0)	22 39 22½	2766·1736
12. Phālguna . . .	{ Kumbha-samk. . .	304	(3)	9 10 25	3073·5262
	{ Mīna-samk. . .	334	(5)	19 41 27½	3380·8789
1. Chaitra (of following year).	{ Mēsha-samk. (of following year).	365	(1)	6 12 30	3688·2315*

The duration of each mean solar month is 30d. 10h. 31m. 2½s.; and during this period in addition to one whole revolution, the mean moon increases her distance from mean sun, in measurement by 10,000ths of circle by, (or in other words the monthly increase of  $a =$ ) 307·352623 726.

\* More fully 3688·231484714.

TABLE LXXVIII.

VALUE OF  $a$  ( $=t$ ) AT BEGINNING OF CENTURIES OF THE KALIYUGA, ACCORDING TO THE FIRST ARYA SIDDHANTA MEAN SYSTEM.

[The value of  $a$  to be added for beginning of odd years of centuries is given in Table LXXIII above. W.-D.=Week-day.]

Century K. Y.	W.-D.	$a$ ( $=t$ ).
36	1	7715-3525
37	1	6583-1816
38	0	5112-3787
39	0	3980-2078
40	0	2848-0369
41	0	1715-8659
42	0	583-6950
43	0	9451-5240
44	0	8319-3531
45	0	7187-1822
46	6	5716-3793
47	6	4584-2084
48	6	3452-0375

The duration of each mean solar month is 30d. 10h. 31m.  $2\frac{1}{2}$ s., and during this period in addition to one whole revolution, the mean moon increases her distance from mean sun, in measurement by 10,000ths of circle by, (or in other words the monthly increase of  $a$  =) 307·352623726.

N.B.—These values of  $a$  agree generally with Professor Jacobi's values above (Vol. XI, p. 164). The apparent differences are due to two causes: (i) The present estimate of the sum of the greatest equations of moon and sun is about 0·4 greater than that of Professor Jacobi. (ii) The values herostated for the beginnings of centuries 38 to 42 are for mean sunrise on Saturdays, while his are for mean sunrise on the following Sundays.

TABLE LXXIX.

MEAN SUNRISE VALUES OF  $a$  (DISTANCE OF MEAN MOON FROM MEAN SUN), IN 10,000THS OF CIRCLE, FOR A MONTH PREVIOUS TO THE DAY OF MEAN MESHA-SAMKRĀNTI.

Interval of days from mean Mēsha- samkrānti day.	W.-D.	$a$ . (mean sunrise value).	Interval of days from mean Mēsha- samkrānti day.	W.-D.	$a$ . (mean sunrise value).
31	4	9502-4119	15	6	4920-5219
30	5	9841-0438	14	0	5259-1538
29	6	179-6756	13	1	5597-7856
28	0	518-3075	12	2	5936-4175
27	1	856-9394	11	3	6275-0494
26	2	1195-5713	10	4	6613-6813
25	3	1534-2032	9	5	6952-3131
24	4	1872-8350	8	6	7290-9450
23	5	2211-4669	7	0	7629-5769
22	6	2550-0988	6	1	7968-2088
21	0	2888-7306	5	2	8306-8406
20	1	3227-3625	4	3	8645-4725
19	2	3565-9944	3	4	8984-1044
18	3	3904-6263	2	5	9322-7263
17	4	4243-2581	1	6	9661-3681
16	5	4581-8900	0	0	0

N.B.—The use of this Table is explained in example 1.

TABLE LXXX.

THE SUN'S MEAN LONGITUDE DURING THE HINDU SOLAR YEAR, IN 10,000THS OF CIRCLE, ACCORDING TO THE FIRST ĀRYA SIDDHĀNTA, AT PERIODS OF 24 HOURS EACH, MEASURED FROM THE MOMENT OF MEAN MESHA-SAMKRĀNTI.

The same in degrees, etc., can be calculated by Table XLIV, Vol. XIV above.

24-hour period.	Sun's mean longitude.	24-hour period.	Sun's mean longitude.	24-hour period.	Sun's mean longitude.	24-hour period.	Sun's mean longitude.
1	2	1	2	1	2	1	2
At moment of mean Mēśha-samkrānti.	0	42	1149-8700	87	2381-8736	127	3476-9879
		43	1177-2479	88	2409-2514	128	3504-3657
		44	1204-5257	89	2436-6293	129	3531-7436
		45	1232-0036	90	2464-0071	130	3559-1214
		46	1259-3814	91	2491-3850	131	3586-4993
		47	1286-7593	At moment of mean Kārkā-samkrānti.	2500-0	132	3613-8772
		48	1314-1371			133	3641-2550
		49	1341-5150			134	3668-6329
		50	1368-8929			135	3696-0107
		51	1396-2707			136	3723-3886
		52	1423-6486			137	3750-7664
		53	1451-0264			138	3778-1443
		54	1478-4043			139	3805-5222
		55	1505-7821			140	3832-9000
		56	1533-1600			141	3860-2779
1	27-3779	57	1560-5379	92	2518-7629	142	3887-6557
2	54-7557	58	1587-9157	93	2546-1407	143	3915-0336
3	82-1336	59	1615-2936	94	2573-5186	144	3942-4114
4	109-5114	60	1642-6714	95	2600-8964	145	3969-7893
5	136-8893	At moment of mean Mithuna-samkrānti.	1666-6	96	2628-2743	146	3997-1672
6	164-2671			97	2655-6521	147	4024-5450
7	191-6450			98	2683-0300	148	4051-9229
8	219-0229			99	2710-4079	149	4079-3007
9	246-4007			100	2737-7857	150	4106-6786
10	273-7786			101	2765-1636	151	4134-0564
11	301-1564			102	2792-5414	152	4161-4343
12	328-5343			103	2819-9193	At moment of mean Kānyā-samkrānti.	4166-6
13	355-9121			104	2847-2971		
14	383-2900			105	2874-6750		
15	410-6679			106	2902-0529		
16	438-0457			107	2929-4307		
17	465-4236			108	2956-8086		
18	492-8014			109	2984-1864		
19	520-1793			110	3011-5643		
20	547-5571			111	3038-9421		
21	574-9350			112	3066-3200		
22	602-3129	61	1670-0493	113	3093-6979	153	4188-8122
23	629-6907	62	1697-4271	114	3121-0757	154	4216-1900
24	657-0686	63	1724-8050	115	3148-4536	155	4243-5679
25	684-4464	64	1752-1829	116	3175-8314	156	4270-9457
26	711-8243	65	1779-5607	117	3203-2093	157	4298-3236
27	739-2021	66	1806-9386	118	3230-5872	158	4325-7014
28	766-5800	67	1834-3164	119	3257-9650	159	4353-0793
29	793-9579	68	1861-6943	120	3285-3429	160	4380-4572
30	821-3357	69	1889-0721	121	3312-7207	161	4407-8350
At moment of mean Vṛishabha-samkrānti.	833-3	70	1916-4500	At moment of mean Śiṃhā-samkrānti.	3333-3	162	4435-2129
		71	1943-8279			163	4462-5907
		72	1971-2057			164	4489-9686
		73	1998-5836			165	4517-3464
		74	2025-9614			166	4544-7243
		75	2053-3393			167	4572-1022
		76	2080-7171			168	4599-4800
		77	2108-0950			169	4626-8579
		78	2135-4729			170	4654-2357
		79	2162-8507			171	4681-6136
31	848-7136	80	2190-2286	122	3340-0986		
32	876-0914	81	2217-6064	123	3367-4764		
33	903-4693	82	2244-9843	124	3394-8543		
34	930-8471	83	2272-3621	125	3422-2322		
35	958-2250	84	2299-7400	126	3449-6100		
36	985-6029	85	2327-1179				
37	1012-9807	86	2354-4957				
38	1040-3586						
39	1067-7364						
40	1095-1143						
41	1122-4921						

TABLE LXXX—Contd.

24-hour period.	Sun's mean longitude.	24-hour period.	Sun's mean longitude.	24-hour period.	Sun's mean longitude.	24-hour period.	Sun's mean longitude.
1	2	1	2	1	2	1	2
172	4708-9914	220	6023-1286	272	7446-7772	320	8760-9143
173	4736-3693	221	6050-5064	273	7474-1550	321	8788-2922
174	4763-7472	222	6077-8843	At moment of mean Makara sankranti.	7500-0	322	8815-6700
175	4791-1250	223	6105-2622			323	8843-0479
176	4818-5029	224	6132-6400			324	8870-4257
177	4845-8807	225	6160-0179			325	8897-8036
178	4873-2586	226	6187-3957			326	8925-1814
179	4900-6364	227	6214-7736			327	8952-5593
180	4928-0143	228	6242-1514			328	8979-9372
181	4955-3922	229	6269-0593			329	9007-3150
182	4982-7700	230	6296-9072			330	9034-6929
At moment of mean Tula sam- kranti.	5000-0	231	6324-2850	274	7501-5329	331	9062-0707
		232	6351-6629	275	7528-9107	332	9089-4486
		233	6379-0407	276	7556-2886	333	9116-8264
		234	6406-4186	277	7583-6664	334	9144-2043
		235	6433-7964	278	7611-0443	At moment of mean Mina-sam- kranti.	9166-6
		236	6461-1743	279	7638-4222		
		237	6488-5522	280	7665-8000		
		238	6515-9300	281	7693-1779		
		239	6543-3079	282	7720-5557		
		240	6570-6857	283	7747-9336		
		241	6598-0636	284	7775-3114		
		242	6625-4414	285	7802-6893		
		243	6652-8193	286	7830-0672		
		At moment of mean Dhanu s- amkranti.	6666-6	287	7857-4450	335	9171-5822
183	5010-1479			288	7884-8229	336	9198-9600
184	5037-5257			289	7912-2007	337	9226-3379
185	5064-9036			290	7939-5786	338	9253-7157
186	5092-2814			291	7966-9564	339	9281-0936
187	5119-6593			292	7994-3343	340	9308-4715
188	5147-0372			293	8021-7122	341	9335-8493
189	5174-4150			294	8049-0900	342	9363-2272
190	5201-7929			295	8076-4679	343	9390-6050
191	5229-1707			296	8103-8457	344	9417-9829
192	5256-5486			297	8131-2236	345	9445-3607
193	5283-9264			298	8158-6014	346	9472-7386
194	5311-3043			299	8185-9793	347	9500-1165
195	5338-6822			300	8213-3572	348	9527-4943
196	5366-0600			301	8240-7350	349	9554-8722
197	5393-4379			302	8268-1129	350	9582-2500
198	5420-8157			303	8295-4907	351	9609-6279
199	5448-1936			304	8322-8686	352	9637-0057
200	5475-5714			At moment of mean Kumbha sankranti.	8333-3	353	9664-3836
201	5502-9493					354	9691-7615
202	5530-3272					355	9719-1393
203	5557-7050					356	9746-5172
204	5585-0829					357	9773-8950
205	5612-4607					358	9801-2729
206	5639-8386					359	9828-6507
207	5667-2164					360	9856-0286
208	5694-5943					361	9883-4065
209	5721-9722					362	9910-7843
210	5749-3500					363	9938-1622
211	5776-7279					364	9965-5400
212	5804-1057					365	9992-9179
213	5831-4836			At moment of mean Vrischika sankranti.	8333-3	At moment of mean Māsa s- sankranti of follow- ing year.	10,000-0
At moment of mean Vrischika sankranti.	5833-3	262	7172-9986	305	8350-2464		
		263	7200-3764	306	8377-6243		
		264	7227-7543	307	8405-0022		
		265	7255-1322	308	8432-3800		
		266	7282-5100	309	8459-7579		
		267	7309-8879	310	8487-1357		
		268	7337-2657	311	8514-5136		
214	5868-8614	269	7364-6436	312	8541-8914		
215	5896-2393	270	7392-0214	313	8569-2693		
216	5913-6172	271	7419-3993	314	8596-6472		
217	5940-9950			315	8624-0250		
218	5968-3729			316	8651-4029		
219	5995-7507			317	8678-7807		
				318	8706-1586		
				319	8733-5364		



TABLE LXXXI.

SUN'S MEAN LONGITUDE. INCREASE IN FRACTIONS OF DAY ACCORDING TO THE FIRST ARYA SIDDHANTA.

(For the same in degrees, etc., see above, Vol. XIV, Table XLIV.)

INCREASE PER HOUR.		INCREASE PER MINUTE.				INCREASE PER SECOND.			
No.	In 10,000ths of circle.	No.	In 10,000ths of circle.	No.	In 10,000ths of circle.	No.	In 10,000ths of circle.	No.	In 10,000ths of circle.
1	1-1407	1	0-0190	31	0-5894	1	0-0003	31	0-0008
2	2-2815	2	0-0380	32	0-6084	2	0-0006	32	0-0101
3	3-4222	3	0-0570	33	0-6274	3	0-0010	33	0-0105
4	4-5630	4	0-0760	34	0-6464	4	0-0013	34	0-0108
5	5-7037	5	0-0951	35	0-6654	5	0-0016	35	0-0111
6	6-8445	6	0-1141	36	0-6844	6	0-0019	36	0-0114
7	7-9852	7	0-1331	37	0-7035	7	0-0022	37	0-0117
8	9-1260	8	0-1521	38	0-7225	8	0-0025	38	0-0120
9	10-2667	9	0-1711	39	0-7415	9	0-0029	39	0-0124
10	11-4074	10	0-1901	40	0-7605	10	0-0032	40	0-0127
11	12-5482	11	0-2091	41	0-7795	11	0-0035	41	0-0130
12	13-6889	12	0-2281	42	0-7985	12	0-0038	42	0-0133
13	14-8297	13	0-2472	43	0-8175	13	0-0041	43	0-0136
14	15-9704	14	0-2662	44	0-8365	14	0-0044	44	0-0139
15	17-1112	15	0-2852	45	0-8556	15	0-0048	45	0-0143
16	18-2519	16	0-3042	46	0-8746	16	0-0051	46	0-0146
17	19-3926	17	0-3232	47	0-8936	17	0-0054	47	0-0149
18	20-5334	18	0-3422	48	0-9126	18	0-0057	48	0-0152
19	21-6741	19	0-3612	49	0-9316	19	0-0060	49	0-0155
20	22-8149	20	0-3802	50	0-9506	20	0-0063	50	0-0158
21	23-9556	21	0-3993	51	0-9696	21	0-0067	51	0-0162
22	25-0964	22	0-4183	52	0-9886	22	0-0070	52	0-0165
23	26-2371	23	0-4373	53	1-0077	23	0-0073	53	0-0168
		24	0-4563	54	1-0267	24	0-0076	54	0-0171
		25	0-4753	55	1-0457	25	0-0079	55	0-0174
		26	0-4943	56	1-0647	26	0-0082	56	0-0177
		27	0-5133	57	1-0837	27	0-0086	57	0-0181
		28	0-5323	58	1-1027	28	0-0089	58	0-0184
		29	0-5514	59	1-1217	29	0-0092	59	0-0187
		30	0-5704			30	0-0095		

## No. 7.—TWO NEW GRANTS OF DHRUVASENA [I.] FROM PALITANA.

By V. S. SUKTHANKAR, PH.D.

I edit here two new Valabhi copper-plate grants (one complete and one incomplete) which were presented, in 1918, to the Trustees of the Prince of Wales Museum, Bombay, by the Bhāvnagar Darbar, which is ever ready to further the cause of epigraphic research by placing ungrudgingly the materials, as they are discovered, in the hands of students of Indian history for investigation and publication, and, when possible, by having them exhibited in centrally situated museums. The plates under reference were discovered at the bottom of a small tank outside the Śatruñjaya Gate at Pālītānā while the tank was being drained during the time of the late Thakor Saheb of that State.<sup>1</sup>

## A.—PLATES OF DHRUVASENA I. ; [VALABHI]-SAM[VAT] 207.

The plates, which are inscribed on one side only, are two in number, each measuring roughly 11½" broad by 6¼" high. The edges are just slightly raised in order to protect the writing, which (excepting portions of ll. 1-4) is in a state of perfect preservation. The plates are of fair thickness; but the letters, being deep, show through on the reverse sides. The engraving is well executed. Each of the plates has two holes bored in it. A ring of copper passing through one pair of them serves to hold the plates together at one end. The seal, which is an invariable accompaniment of such plates, is missing. The aggregate weight of the plates is about 102 *tolas*. Each plate contains twelve lines of writing; the last line but one of the second plate contains the date.

From the foregoing description of the plates, as well as from the facsimiles of them appearing with this article, it will be evident that this record does not differ in any striking particular from any of the hitherto published records of the same king. Only in the portion dealing with the grant proper does the text of this inscription differ, for example, from that of other plates of this king which were discovered some years back also at Pālītānā, and have been edited by Dr. Sten Konow in a former issue of this Journal.<sup>2</sup> The royal donor, Dhruvasēna, as well as the *dataka* Mammaka and the writer Kikkaka, are names well known to the Indian epigraphist. It will, therefore, be unnecessary to go here into a minute description of the characters and orthography of this inscription. It will suffice to observe that the alphabet offers a specimen of final *t* (l. 15), final *m* (l. 23) and the numerical ideograms 200, 7, and 5, and that the name of the founder of the dynasty is spelt as *Bhaṭakka* (l. 3). At the end of line 12 is to be found a horizontal stroke, about ¼" long, evidently drawn with a view to fill up the empty space remaining at the end. The reason for leaving the space vacant appears to be that the writer did not wish to commence, at the end of the line, a long word the whole of which would not have been contained in the short space that was left over.

The inscription is one of the *Maharāja Dhruvasēna* [I.] of the *Maitraka* dynasty, and the grant contained in it is issued from the city of *Valabhī*. The object of the inscription appears to be to record the confirmation by Dhruvasēna of the donee, a *Brāhmaṇa* named *Mādhava*, of the *Śunaka gōtra*, student of the *Chhandōga School*, and resident of the village of *Jyēshthānaka* (stated to be *Akshasaraka-prāvṛṣṭya*) in the *Hastavapra-haraṇī* in the possession of some

<sup>1</sup> My friend Pandit Girijasankar Vallabhji of Rajkot, Curator of the Prince of Wales Museum, Bombay, informs me that the five Pālītānā plates edited by Prof. Konow (above, Vol. XI, pp. 104 ff.) were discovered at the same place and at the same time as the plates here described.

<sup>2</sup> Above, Vol. XI, pp. 104 ff.

land already enjoyed by him in the village of which he was a resident. Besides Hastavapra, which is the modern **Hathab** (6 miles south of Goghā in the Bhāvnagar State), and Valabhī, which is commonly identified with the modern Valā (situated in 21° 52' N. and 71° 57' E.), none of the places can be located. The date of the record is the year 207 (given as usual in numerical ideograms), and the 5th (*tithi*) of the dark fortnight of Vaiśākha. The year when referred to the Gupta-Valabhī era yields A.D. (207 + 320) = A.D. 527.

There are two expressions in this inscription, both occurring in the portion dealing with the grant proper, which deserve some comment: they are *Akshasaraka-prāvēśya* (l. 12) and *sa-saibaram* (l. 16). The latter we will consider first.

Being mentioned along with the well-known technical expressions *sa-hirany-ādēyam* and *sa-bhāta-rāta*, *sa-saibaram* must be a term of like nature, i.e. a technicality of the lawyers; but what its significance may be I am unable to surmise. There can be no question regarding the correctness of the reading; the letters are perfectly distinct. The word *saibara* is not to be found in dictionaries; nor have I come across it elsewhere. I can only think that it may be, as it stands, a clerical error; but I am unable to suggest any plausible emendation for it.

The word *prāvēśya* in the other expression referred to above is also one that presents some difficulty to the interpreter. Here it is used in a compound with *Akshasaraka*, evidently a place-name, and serves to locate more definitely the village Jyēsthānaka situated in the Hastavapra-haranī. As far as I know, the word *prāvēśya* has been met with only twice before: once in another Valabhī grant, occurring there in a compound with the same place-name *Akshasaraka*, and once again in the Khariar grant of Mahāsudēva, compounded with the word *Navannaka*, which is also a place-name.

The former record forms one of the five Valabhī grants from Pālītāpā<sup>1</sup> edited by Prof. Sten Konow, and is a grant of Dhruvasēna I., dated in Samvat 210. In that connection Prof. Konow rightly points out that the phrase *Akshasaraka-prāvēśya* of the grant corresponds to the *Akshasaraka-prāpīya* in a third Valabhī grant,<sup>2</sup> viz. the Gaṇḍśgaḍ (Baroda) plates of Dhruvasēna, dated Samvat 207. Hultsch, when editing the latter grant, translated the phrase by 'which belongs to the *Akshasaraka-prāpa*.' Prof. Konow, who regards *prāvēśya* and *prāpīya* as synonyms, rejects Hultsch's rendering of *Akshasaraka-prāpīya* and advances the suggestion that *prāvēśya* in this connection means the same thing as in the phrase *a-chāṭa-bhaṭa-prāvēśya*, and accordingly translates the phrase by 'which can be entered from (i.e., which borders on) *Akshasaraka*.' I cannot, in the first place, admit that the expressions *a-chāṭa-bhaṭa-prāvēśya* and *Akshasaraka-prāvēśya* correspond exactly. For in the former the first member of the compound comprises the logical subject of the verb contained in *prāvēśya*; but such cannot be the case with the second expression, even if we assign to it the meaning which Prof. Konow does. Secondly, I do not understand what is meant by saying that a village could be 'entered' from such and such a place. If, moreover, *prāvēśya* meant the same thing as 'bordering on,' as Prof. Konow asserts, I cannot help thinking that the writer would have employed a simple word like *samtā* or *pārśva-vartin*, which lie at hand, to express that simple idea of proximity rather than use the circumlocution of *prāvēśya* or *prāpīya*. Hultsch, on the other hand, appears to me to be undoubtedly on the right track. He looks upon *prāpīya* as a derivative of *prāpa*, which he takes to be a word denoting a territorial division smaller than an *āhāra*. Similarly the analogous term *prāvēśya* should also be looked upon as a *taddhita* of *prāvēśa*. That this derivation is correct may be seen from the Khariar plates of Mahāsudēva, in which a village is described (l. 4) as *Kṣhitimad-āhāriya* and *Navannaka-etot-prāvēśya*. No one will dispute that *āhāriya* is derived from *āhāra* ('district,' 'province') by the addition of the suffix *-iya*. That supplies us with the clue to the explanation of the other words under consideration here. All these words are derived

<sup>1</sup> Above, Vol. XI, pp. 104 ff., and Plates.

<sup>2</sup> Above, Vol. III, p. 320, and Plate.

by the addition of the secondary -(i)ya to the strengthened forms of the roots *ā-hri*, *pra-(ā-)viś* and *pra-(ā-)āp* ('bring to,' 'carry to'), words with only minute differences of meaning. I feel, therefore, constrained to reject the interpretation of Prof. Konow in favour of the other. *Prāpīya* I take to be 'that which belongs to the *prāpa*,' and *prāvīśya* 'that which belongs to the *prāvīśa* (or *pravīśa*)'; both *prāpa* and *prāvīśa* I regard as territorial divisions smaller than the *dhāra*.

TEXT.<sup>1</sup>Plate A<sub>1</sub>.

- 10 <sup>2</sup>परमभट्टारकपादानुद्ध्या(ध्या) तो महाराजभुवसेनः कुमली सर्वानिव खानायुक्त-  
नियुक्तकचाट-  
11 भट्टाधिकमहत्तरभुवखानाधिकरणिकदाण्डपाशिकादीनन्यास<sup>3</sup> यथासंबन्धमान-  
काननु-  
12 दर्शयत्यस्तु वसंविदितं यथा मया हस्तवप्रहरण्यामचसरकप्रावेश<sup>5</sup>

Plate A<sub>2</sub>.

- 13 ज्येष्ठानकग्रामे उत्तरसीनि पादावर्त्तयतं पञ्चधिकं तस्मिन्नव<sup>6</sup> ग्रामव<sup>7</sup>व्यग्रनक-  
14 सगोचारीणां छन्दोगसब्रह्मचारीणां<sup>8</sup> ब्रह्मणमाधवपूर्वभुज्यभुज्यमानकं<sup>9</sup>(:) मातापित्रीः  
15 पुण्याप्यायनायात्मना<sup>10</sup>वैदिकामुभिकयथाभिलषितफलावाप्तिनिमित्ता<sup>11</sup>माचन्द्रार्का-  
र्णवक्षितिसरित्-  
16 पर्वतस्थितिसमकालीनं पुत्रपौत्राग्वयभोज्य<sup>12</sup> सशैवरं सहि[र\*]त्यादेयं सभूतवा-  
तप्रत्यायविशुद्धा<sup>13</sup>  
17 उदकातिसर्गेण ब्रह्मदेयं निरुद्ध<sup>14</sup>[।\*] यतः एषां ब्रह्मदेयस्थित्या भुजता<sup>15</sup>  
क्षयतां प्रदिशताच<sup>16</sup>  
18 स्वस्याप्यावधा<sup>17</sup> विचारणा वा न कार्यास्मदंशजैर<sup>18</sup>गामिभद्रवृत्तिभिश्च<sup>19</sup>नित्या-  
न्यैश्वर्याण्यस्थिरं मानुष्यं  
19 सामान्य<sup>20</sup> च भूमिदानफलमवगच्छन्निरयमस्मादायीनुमन्तव्य[।:]\* (उ) यश्चिच्छिन्द्या-  
दच्छिद्यमानं<sup>21</sup> वानुमोदे-

<sup>1</sup> From the original plates, and a set of estampages.

<sup>2</sup> Up to this, the text is practically identical with the text of the Palitānā plate of Dhruvasēna I. (dated samvat 206), published above, Vol. XI, pp. 106 ff. The only *variae lectiones* are unimportant mistakes of orthography, which it would be unnecessary to register individually as the facsimiles are there for reference.

<sup>3</sup> Read ॐनास.

<sup>4</sup> Read ॐकाननु.

<sup>5</sup> In the original a short horizontal stroke after श्य.

<sup>6</sup> Read श्वे.

<sup>7</sup> A short vacant space between व and व्य. Read ग्रामवास्तव्य°.

<sup>8</sup> Read ॐचारिणां ब्राह्मण°.

<sup>9</sup> Read ॐपूर्वभुज्यभुज्यमान°. The *anusvāra* is written over the line between कः and ना. The letters *pūrvā-bhujyā-bhujyamānakaḥ* have been engraved over some faintly incised letters.

<sup>10</sup> Read न.

<sup>11</sup> Read त.

<sup>12</sup> Read ज्य.

<sup>13</sup> Read ह.

<sup>14</sup> Read ह.

<sup>15</sup> Read भुजता.

<sup>16</sup> Read तास.

<sup>17</sup> Read ॐना.

<sup>18</sup> Read रा.

<sup>19</sup> Read सा.

<sup>20</sup> Read न.

<sup>21</sup> Read यश्चिच्छिन्द्यादच्छि.

- 20 त्व पंचभिः महापातकैस्त्रोपपातकैस्तु यत्तत्त्व<sup>1</sup>दपि चात्र व्यासगीताः श्लोका  
भवन्ति [॥\*] बहुभिर्व्वसुधा
- 21 भुक्ता राजभिस्सगरादिभिः [॥\*] यस्य यस्य यदा भूमिः तस्य तस्य तदा  
फलं [॥\*] स्वदत्तां परदत्तां वा यो हरेत्
- 22 वसुन्धरां [॥\*] गवां शतसहस्रस्य हन्तुः [॥\*] प्राप्नोति किल्बिषां<sup>3</sup> [॥\*] पूर्व-  
दत्तां द्विजातिभ्यो यद्वादत्त युधिष्ठिरः [॥\*]
- 23 महि<sup>4</sup> महिमतां श्रेष्ठ दानाच्छ्रेयोनुपालनम् [॥\*] दूतकः प्रतीहारमन्त्रकः [॥\*]  
सं २०० ७ वैशख<sup>5</sup> व ५ [॥\*]
- 24 स्वहस्तो मम महाराजध्रुव<sup>6</sup>सेनस्य [॥\*] लिखितं किककेनति<sup>7</sup> [॥\*]

## TRANSLATION.

[Ll. 1-11 contain the usual preamble; for translation, cf., for instance, that of the "opening lines of the Pālitānā plates, No. 1, edited by Prof. Konow, *Ep. Ind.*, Vol. XI, p. 108.]

(Ll. 12-16.) Be it known to you that for the purpose of increasing the religious merit of (my) mother and father, and for the sake of the attainment of the desired reward both in this world and in the next, I have confirmed, as *brahma-dēya*, with libation of water, (the enjoyment of) one hundred and sixty *pādāvarittas*, on the northern boundary of the *Jyōshthānaka* village belonging to the *Akshasaraka-prārēśya* in the *Hastavapra-haraṇi*, which had (formerly) been and are (still) being enjoyed (by the donee?), for (the benefit of) the resident of the same village, (namely,) the *Brāhmaṇa Mādhava* of the *Śunaka gōtra*, a student of the *Chhandōga* School,—to last for the same time as the moon, sun, ocean, earth, the rivers and mountains, to be enjoyed by the succession of his sons and sons' sons,—with (?) *śaibara*, with gold (and) *ādēya*, with *bhūta*, *vāta*, and (?) surety of holding (*pratyāya*).

(Ll. 17-19.) Wherefore, no enquiry should be made or obstruction caused (to him) by any one, while he is, according to the proper conditions of a *brahma-dēya*, enjoying, cultivating, or assigning (it to others). And this our gift should be assented to by those born in our lineage, and by future good kings, bearing in mind that power is perishable, the life of man is uncertain, and that the reward of a gift of land is common. And he who confiscates it or assents to its confiscation incurs the guilt of the five great sins together with the minor ones.

(Ll. 20-22.) There are also two verses sung by Vyāsa about this.

[Here follow two of the customary verses.]

(L. 23.) The *dātaka* is the *pratihāra Mammaka*. (Dated the) 5th (*tithi*) of the dark (fortnight) of *Vaiśākha* (in the) year 200 7.

(L. 24.) (This is) the sign-manual of me *Mahārāja Dhruvasēna* [I.]. Written by *Kikkaka*.

## B.—ANOTHER PLATE OF [DHURUVAŚENA I.]

This plate, which contains only the opening portion of a land-grant of the Maitraka king Dhruvasēna I., is inscribed on one side only and measures roughly 10½" broad by 6½" high. The

<sup>1</sup> Read इत्यत्र.

<sup>2</sup> Over ॥ there is a peculiar sign, the meaning of which is not apparent. [I think it is *upadmāniya*.—Ed.]

<sup>3</sup> Read च.

<sup>4</sup> Read ह.

<sup>5</sup> Read वैशाख.

<sup>6</sup> Read नेति.

<sup>7</sup> The construction of line 14 is somewhat confused; it is not clear who the donee was, or who, at the time of the grant, was in possession of the land which is the object of the grant. As it stands, the text does not make any sense; my rendering is conjectural.

A i.

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6  
8  
10  
12

2  
4  
6  
8  
10  
12

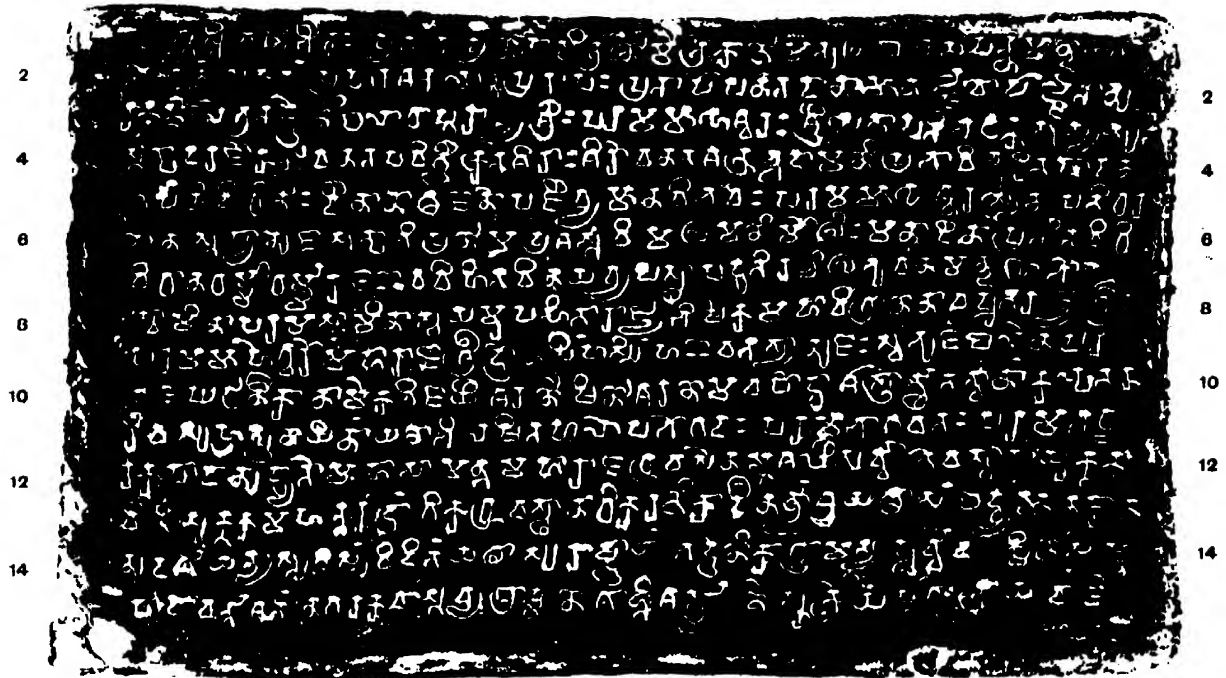
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A ii.

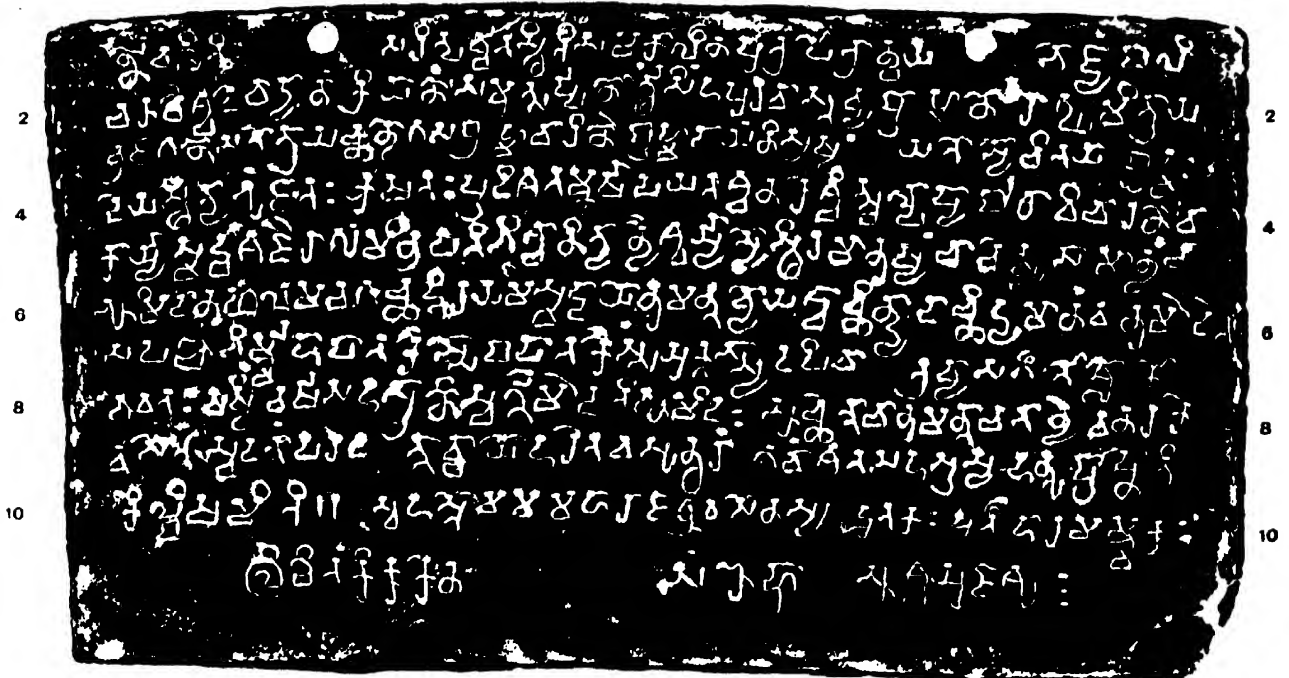
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Kathiawad Plate of Dhruvasena [I]: Samvat 206.



edges are just slightly raised, in order to protect the writing, which is in a state of excellent preservation throughout. The letters, which are deeply incised, show through on the reverse side of the plate. The engraving is well executed. The plate has a pair of holes bored at two adjacent corners and intended for receiving the ring and seal, which are missing. Its weight is 56 *tolas*. It contains fifteen lines of writing. The letters are of the period to which the plate refers itself, and of the type met with on other plates of the Maitraka dynasty. In short, this record is exactly like any of the large number of grants of Dhruvasēna I. that have latterly been brought to light. A detailed description of the characters, language and orthography of these plates, or even an English rendering of the text, seems superfluous. We may take it for granted that the *dūtaka* of this grant was the *pratihāra* Mammaka, and the writer Kikkaka.

The grant was issued from Valabhi by the *Mahāsāmanta Mahārāja Dhruvasēna* [I.] to the Brāhmaṇa Śāntīśarman of the Ātrēya *gōtra*, [a student of] the Vāji[sanōya] School and a resident of Nagaraka, either bestowing upon him or confirming him in the possession of one hundred *pādāvarṭtas* of land on the south-eastern boundary of the village of Bhadrēṇikā, situated in Surāśṭrā.

I am unable to identify Bhadrēṇikā. Nagaraka is probably Vaṇnagar, the home of the Nāgar Brāhmans.

#### TEXT.<sup>1</sup>

##### Plate B.

- 12 . . . 'महासामन्तमहाराजध्रुवसेनकुशलो सर्वनिव स्वानायुक्तक-  
 13 विनियुक्तकमहत्तरद्रांगिकध्रुवस्थानाधिकरणिकादीनन्यांश्च यथासंबद्धमानकान-  
 14 नुदर्शयत्यस्तु वस्त्वविदितं यथा सुराद्रायां भद्रेणिकाग्रामस्य पूर्वदिक्षिण-  
 सिन्धि<sup>3</sup>,  
 15 पादावर्त्तशतं नगरकवास्तव्यनाम्नशान्तिशर्मणे आच्येयसगोत्राय वाजि<sup>4</sup>-

#### POSTSCRIPT.

##### A PLATE OF DHRUVASENA DATED SAM. 206.

Since writing the above I have come across a new Valabhi plate containing the concluding portion of a grant of Dhruvasēna dated in *sam.* 206, about which I should like to add a few words in continuation of the above note on the Bhavnagar plates. This new plate was placed in my hands for decipherment by Mr. J. C. Chatterjee, Dharmādhyaksha (Secretary in the Ecclesiastical Department) to the Government of His Highness the Gaikwar of Baroda. It was sent to him, he told me, officially from Kathiawad for decipherment: that is all that I could elicit from him regarding its previous history. The plate is 11½ inches long by 6½ inches broad; the edges are raised to protect the writing, which is in a state of perfect preservation; and the characters belong to the period to which the plate refers itself: in one word, the grant is similar in every respect to the records of the Valabhi kings that have hitherto come to light.

<sup>1</sup> From the original plate, and a set of estampages.

<sup>2</sup> Up to this the text is practically identical with the text of the Pālitānā Plate of Dhruvasēna I. (dated 206), published above, Vol. XI, pp. 105 ff. In l. 6, read °*t-pād-ābhīpraṇāma*° for °*t-pābhīpraṇāma*°; and *Manvādina* for °*dina*°.

<sup>3</sup> Read °सिन्धि°.

<sup>4</sup> The rest of the inscription is missing



The inscription is one of *Mahārāja Dhruvasēna* [I.] and records the grant of a village (of which the name must have occurred in the missing portion of the grant and is therefore now lost) to a Brāhmaṇa named *Rotghamitra* of the *Vrajaṅga gōtra*, a student of the *Chhandōga* School, and resident of *Sinhapura*, for the maintenance of certain sacrifices. The grant is dated *sam. 200 6, Āsvina śukla 3*. The *samvat* year, when referred to the *Valabhi* era, yields A.D. (206 + 319) 525. The *dātaka* was *Mammaka*, and the writer *Kikkaka*, as usual.

The only point worthy of notice in this grant is the village-name *Sinhapura*, which is mentioned in it as the residence of the grantee. It is tempting to identify it with *Sihōr* in the east of the *Kathiawad* peninsula, a junction on the *Bhavanagar-Wadhwan* Railway, not far from *Valā*, the ancient *Valabhi*.

### [ KATHIAWAD PLATE OF DHRUVASENA [I.]

#### TEXT.<sup>1</sup>

- 1 rṇṇava-kshiti-sarit-parvvata-sthiti-samakālinām putra-pantr-ānvaya-bhōjyam bali-
- 2 charu-vaiśvadēv-ādyānām kriyānām samutsarppan-ārttham *Sinhapura-vāstavya-*  
brāhmaṇa-*Rōtghamitrāya*
- 3 *Vrajaṅga-sa-gōtrāya* (Ch) *Chhandōga-sa-brahmachāriṇē* brahma-dāyam nisṛiṣṭam  
[|\*] yatō=sy-ōchitayā brahma-
- 4 dēya-sthityā bhūmjataḥ kṛishataḥ pradiśataḥ=karshāpayataś=cha na kaiś=chit=svalp-  
āpy-ābādha vichāraṇā vā
- 5 kāryy=āsmad-vamśajair=āgummi<sup>2</sup>-nṛipatibhiś=ch=ānityāny=aiśvairyāny=asthiram mānu-  
shyam ch=āvōkshya sāmānyam cha
- 6 bhūmi-dāna-phalam=avagachchadbhir=ayam=asmad-dāyō=numantavyō yaś=ch=āchchhin-  
dyād=āchchhidyamānam v=ānumōdēt
- 7 sa pañchabhir=mmahā-pātakais=ṣ-opapātakais=samyuktas=syād=api ch=ātra *Vyāsa-gītan*  
ślokaḥ
- 8 bhavataḥ [|\*] shashtīm[\*] varsha-sahasrāpi svarggō mōdati bhūmidatḥ[|\*] āchchheittā  
ch=ānumantā cha tāny-ōva narakō
- 9 vasēt [|\*] sva-dattām para-dattā[|\*]=vvā yō harēta vasundharām [|\*] gavām  
śata-sahasrasya hantu[h\*] prāpnōti
- 10 kilbisham[|\*]=iti sva-hastō mama mahārāja-*Dhruvasēnasya* [|\*] dātakaḥ  
prathāra-*Mammakaḥ* [|\*]
- 11 likhitam *Kikkakena* [|\*] *sam 200 6 Āsvayuja śu 3* [|\*]

### No. 8.—SRIRANGAM COPPER-PLATE GRANT OF DEVARAYA II; SAKA 1349 (1350).

By THE LATE T. A. GOPINATHA RAO, M.A., TRIVANDRUM.

The temple of Śrī-Raṅganātha at Śrīraṅgam possesses, among others, two sets of copper-plates belonging to the reign of the Vijayanagara king Dēvarāya II. The inscriptions engraved upon these two sets are edited below from the impressions prepared under my supervision.

#### No. I. SAKA-SAMVAT 1349.

This set consists of three plates (size  $10\frac{3}{4} \times 6\frac{1}{2}$  in.), of which the first and the third bear writing on one face only, namely, the second side of the first and the first side of the third.

<sup>1</sup> From the original plate and a set of impressions.

<sup>2</sup> [Read *āgami*.—Ed.]

The inscription is in good state of preservation. The alphabet in which the record is written is **Nandināgarī**, and the language partly **Saṅskṛit** and partly **Kannāḍa**. The first section covers 41, and the second 34 lines, and the remaining portion contains the usual admonitory and imprecatory verses. At the end appears, as is usual with the documents of the kings of the first dynasty of Vijayanagara, the word *Śrī-Virūpākṣa*, the sign-manual of the king, written in the Telugu-Kannāḍa alphabet. The same sort of mistake, careless execution of the engraving, leaving room for a number of corrections, erasures, interlineations, etc., and other faults common to the other grants of this period are to be found in these two sets of copper-plates also; there is no necessity for them to be noticed in detail here; they are noted in the foot-notes at the appropriate places.

The record is dated **Śaka 1349**, which is expressed by the **chronogram dhivalōka**; this year corresponded to the cyclic year **Plavaṅga**. In the Kannāḍa portion the Śaka year is given as 1350, and the same Plavaṅga is said to be current. On a **Sunday**, which was the **Uṭthāna-dvādaśī tithi** in the bright half of the month **Kārttika**, the king **Dēva-Rāya II** granted to the God **Raṅganātha** of **Śrīraṅgam** the village of **Pāṇḍamaṅgalam** together with the sub-villages, **Tirunalūr**, **Sēraṇaibaṇḍa-perumā-nallūr**, and **Sunepuha-nalūr**, in the name and for the merit of his mother **Nārāyaṇāmbikā**. The genealogy of the king is traced thus :—

Saṅgama  
|  
His middle son  
Bukka I  
md. Gaurāmbikā  
|  
Harīharāśvara  
|  
Pratāpa-dēva-Rāya I  
md. Dēmāmbikā  
|  
Vijaya-Bhūpati  
md. Nārāyaṇāmbikā  
|  
Dēva-Rāya II

Dēva-Rāya II bears the *birudas*, *Rāj-ādhirāja*, *Rāja-param-śvara*, *Bhāṣh-ātīlaṅghi-bhūpāla-bhujāṅga* (= *Bhāṣhege-tuppuru-rāyara-gaṇḍa*), *Mūru-rāyara-gaṇḍa* and *Hindu-rāya-suratrāṇa*. Having ascended his ancestral throne and while protecting the kingdom, residing in his capital **Vijayanagara**, which is situated on the bank of the river **Tuṅgabhadra**, king Dēva-Rāya made the grant mentioned above in the presence of the god **Virūpākṣa** on the bank of the Tuṅgabhadra. The villages **Pāṇḍamaṅgalam**, **Tirunalūr** and **Sēraṇaibaṇḍa-perumā-nallūr** are said to have been situated in the **Rājagambhira vaṇaṇḍu** on the south side of the river **Kāvērī**; and **Sunepuha-nalūr** in the **Mēlmurī** of the **Maḷa nāḍu**, a sub-division of the **Rājarāja vaṇaṇḍu**, on the north of the same river. The Kannāḍa portion adds that the villages belonged to the **Amarada hōbaḷi**. All of them belonged also to the **Tiruchchirappalli rājya** or **chāvaḍi**. The purpose for which the grant is made is given in full detail in the Kannāḍa portion. From the income of the villages twelve perpetual lamps should be burned, flower-garlands dedicated and one festival celebrated. The grant was made as an auxiliary to the *Gō-sahasra Mahādāna* performed by the king. The grant was ordered to be executed from the first *tithi* of the bright fortnight of the month **Āṣāḍha**. The income from the villages situated on the south of the Kāvērī was 1403 coins (*kuḷa-gadyāṇa*), and that from the village on the north of the river 420; total 1,823

*gadyānas*. A number of taxes leviable in these villages are included in the grant: they are taxes on the *naṇṣey*, *puṇṣey*, *pūm-payir*, *vāṣal*- and *maṇai-ppēru-kaḍamai*, *tari-kkaḍamai*, *māvaḍai*, *maravaḍai*, *kuḷavaḍai*, *kalāyam*, *tirigai-āyam*, *pēr-kaḍamai* (*tari-kaḍamai*), *āḷukku-nir-pāṭṭam*, *mahamai*, *kaṭṭigai-avasaram*, *paṭai-kāṇikkai*, *Āḍi-Kārttigai-pachchai*, and all old and new taxes. Several of these have remained unexplained up till now. It is easy to understand the nature of the first four; they are levied on wet and dry cultivation, on inferior crops, on houses and compounds and on looms; *māvaḍai*, *maravaḍai* and *kuḷavaḍai* are taxes on animals, trees and tanks: that is, perhaps, when animals are sold in markets; on fruit-bearing trees and for fishing in tanks. *Kalāyam* literally means tax on stone; it is very likely a tax payable for quarrying stones from hills; what tax is meant by *tirigai-āyam* is not known. *Pēr-kaḍamai* means taxes on persons, a sort of poll-tax evidently. *Āḷukku-nir-pāṭṭam* is a tax for maintaining the person appointed for making regular supply of water to the fields: this appears to be the same as *nirāṇikkam*. *Magamai* is a corrupt form of *magaṇmai*, the nature of being a son to another; this levy is still in force among certain merchants in the Tanjore and Trichinopoly districts. On all sales and purchases the merchants collect a small, but fixed, sum and utilize the money thus collected for some public purpose. Compare similar words, as *kōyīṇmai* corrupted into *kōyima*, *ārāṇma*, etc. *Kaṭṭigai-avasaram* appears to be some sort of tax on fire-wood; and *paṭai* (*paḍai*)-*kāṇikkai* is the contribution to be made for the maintenance of the army. *Pachchai* means a *kāṇikkai*, a *nazar*, a present on important occasions. In this sense the word is employed in contemporary literature; for instance, in *Śrī-vachana-bhūṣaṇam*, I, 33 and 34. Such *kāṇikkais* seem to be given in the months of *Āḍi* and *Kārttigai*.

The following places and rivers are mentioned in the inscription:—*Tuṅgabhadra*, *Vijayanagara*, *Tiruchohirāppaḷi*, *Kāvēri*, *Rājagambhira vaḷanāḍu*, *Pāṇḍa-maṅgalam*, *Tirunalūr*, *Śēraṇaibāṇḍa-perumā-nallūr*, *Rājarāja vaḷanāḍu*, *Mēlmurī* of the *Maḷa nāḍu* and *Śunepuha-nalūr*. Of these the *Tuṅgabhadra* and the *Kāvēri* are the well-known rivers of South India. *Tiruchohirāppaḷi* is the modern town of Trichinopoly, the head-quarters of the district of the same name. The part of the country immediately to the south of the river *Kāvēri* was known to medieval inscriptions as the *Rājagambhira vaḷanāḍu*, and that on the north of the same as the *Rājarāja vaḷanāḍu*. *Maḷa nāḍu* is a sub-division of this territory and has given its name to a section of the Tamil Brāhmaṇas, i.e. the *Brihach-charaṇa* community of *Maḷa nāḍu*. *Vijayanagara*, the capital of the famous Hindu kings of Southern India, is the modern *Hampe* on the *Tuṅgabhadra*. *Pāṇḍa-maṅgalam* is a village a mile and a half west of Trichinopoly; this and *Tirunalūr* are in the Trichinopoly *Tālūk*; the correct form of the name *Śēraṇaibāṇḍa-perumā-nallūr* is *Śēraṇai-veṇṇa-perumāḷ-nallūr*. There is a village some distance south of *Pāṇḍa-maṅgalam* called *Vēndarāya-nallūr*. This is perhaps the same. *Śunepuha-nalūr* is situated at a distance of seven and a half miles to the north-west of Trichinopoly.

#### TEXT.<sup>1</sup>

[Metres: vv. 1-25, *Anuṣṭubh*, and v. 26, *Śalinī*.]

*First Plate: Second Side.*

- 1 श्रीगणाधिपतये नमः [॥\*] नमः(ः)स्ते [॥\*] नमः(ः)स्ते [॥\*] नमः(ः)स्तुगसि
- 2 रघुबि<sup>2</sup>चंद्रचाम[र\*][चा]रवे [।\*] चैलीकनगरारंभमूल-

<sup>1</sup> From impressions prepared under my supervision.

<sup>2</sup> Read °रुघुबि. रुजि.

- 3 स्तंभाय संभवे<sup>1</sup> (तु) ।[ 1\*] भू[य\*]<sup>2</sup> भवतां भूतै<sup>3</sup> भूयादाच्छयं<sup>4</sup>  
 4 कंजरः[1\*] आहुर्विहारकांतार अ[1\*]<sup>5</sup>गमाव्यस्य [यो]-  
 5 गिनः ।[ 2\*] क्षेमं वः प्रसुरीकुर्यात्क्षोणीमभ्युद्वहनयं<sup>6</sup>[1\*] [क्रो]-  
 6 डाकतेरभूव्यस्य क्रीडापस्व[ल]मंक्षुधि<sup>7</sup>[:॥ 3\*] अस्ति क्षोरा[र्ण]-  
 7 वोद्भूतमपां पु[ष्य]मनुत्तमं<sup>8</sup> । अन्तानदं निर्माव्यमाध-<sup>9</sup>  
 8 त्ते शिरसीश्वरः [॥ 4\*] सदामोदनिधेस्तस्य संतानेयद्र[सं]-<sup>10</sup>  
 9 [क्षि]ते [1\*] अभूदाच्छयम[1]धुर्यं वसुधायास्तपःफलं [॥ 5\*]  
 10 संगमो नाम रा[जा]भू[त्वा]रभूते तदन्वये [1\*] रेजे यस्य  
 11 यशःशिंधौ<sup>11</sup> सर[णी]व सुरापगा [॥ 6\*] सर्वरत्ननिधि]-  
 12 स्तस्य संस्त्राडासीत्तनूभव<sup>12</sup> । मच्छे बुक्कमहोपालो म-  
 13 णोनामिव कौस्तुभः [॥ 7\*] तस्य गोरांबिकाजानेस्त(नयो वि)-  
 14 नयोभूनु<sup>13</sup>वतः [1\*] [हा]रगौरयशःपु<sup>14</sup>रहारिहरिह[रे]-  
 15 श्वरः [॥ 8\*] <sup>15</sup>यषोडशमहादानयशसां दिग्विहारिणां [1\*] भूय[सा]-  
 16 मभवंनालं<sup>16</sup> भुवनानि चतुर्दश [॥ 9\*] प्रतापदेवरायाव्यः  
 17 पुत्रोभू[द्भू]<sup>17</sup>वि विश्रुतः [1\*] प्रमोद इव मूर्त्ति यः प्रजानां स्वैर्ग-  
 18 णैर[भु]<sup>18</sup>त् [॥ 10\*] प्रत्य[र्थि]समिधो हृत्वा प्रतापाग्नी रणांकणे [1\*]<sup>19</sup>  
 19 विजितो येन(।) वीरेण विजयश्रीकरग्रहः [॥ 11\*] तस्य दे-  
 20 मांबिकाजानेस्तनयो विनयोक्तः [1\*] विद्यानिधि-  
 21 विशेषज्ञो वीरो विजयभूपतिः [॥ 12\*] दयानिधेर[भू]-  
 22 तस्य देवीनारायणांबिका [1\*] शीरेरिव महालक्ष्मीः शं-  
 23 [क]रस्येव पार्वती [॥ 13\*] पुत्ररूपं तयो [1\*] स्नाद्यं पु<sup>20</sup>र्वजन्म त-

*Second Plate : First Side.*

- 24 पःफलं [1\*] देवरायमहोपालो दाता दीव्यति भूतले [॥ 14\*]  
 25 विक्रमे विक्रम[1\*]दित्यं भोगे भोजमिवापरं [1\*] राजराजं वि-

<sup>1</sup> Read श<sup>०</sup>.

<sup>4</sup> Read °दाच्छयं.

<sup>7</sup> Read °मक्षुधिः

<sup>10</sup> Read सन्तानं यदुत्तमं.

<sup>12</sup> Read णो.

<sup>16</sup> Read °वज्रालं.

<sup>19</sup> Read रणांकणे.

<sup>2</sup> Read भूयस्ये.

<sup>5</sup> Read कान्तारमा<sup>०</sup>.

<sup>6</sup> Read °मक्ष.

<sup>11</sup> Read यशः शिंधोः

<sup>14</sup> Read पु.

<sup>17</sup> Read °हु.

<sup>20</sup> Read पु.

<sup>3</sup> Read भूतै.

<sup>6</sup> Read °द्वहनयं.

<sup>9</sup> Read अन्तानं यदनिर्माव्य<sup>०</sup>.

<sup>12</sup> Read सान्त्राडासीत्तनूभवान्.

<sup>15</sup> Read यषोडश<sup>०</sup>.

<sup>18</sup> Read °भू.

- 26 तरणे राजानं यं प्रचक्षते [॥ 16\*] अभंगमंगकाळिङ्गमंगगाद्या-  
 27 सामरादिभिः [1\*] रत्नानो यं निषेवते<sup>1</sup> राजचिह्नैः स्वयं[६]-  
 28 तैः [॥ 16\*] राजाधिराजः[२]स्तेजस्वी यो राजपरमे[३]रः [1\*] भाषाति-  
 29 लङ्घिभूपालभुजंगवि[४]दोन्नतः<sup>2</sup> [॥ 17\*] मूर्धुरायस्मडाकः<sup>3</sup>  
 30 परराजभयंकरः [1\*] चिंदुराय[५]रचाणो<sup>4</sup> वंदिवर्गेण वं-<sup>5</sup>  
 31 र्ण्यते [॥ 18\*] श्रीतुंगभद्रापरिषे नगरे विजयाज्ञये [1\*] प्रियं  
 32 सिंहासनं प्राप्य पालयन्[६]विनीतिमां [॥ 19\*] पुण्य<sup>6</sup>से[1\*]जा-  
 33 ग्रं[७]सी देवरायमहीपतिः[1\*] धिवशीकी सकथा-<sup>7</sup>  
 34 [८] म्र[८]वंगा[८]द्वय[८]वच्छ<sup>8</sup> [॥ 20\*] क[१]र्त्तिके मासि सुभाषा<sup>11</sup> दाद[९]या-  
 35 मार्कवासये<sup>12</sup> [1\*] तुंगभद्रानदीतो[९] श्रीविरूपाक्षसंनि-  
 36 [१०] [॥ 21\*] चि[१०]सिरापन्निरा[१०] राजगंभीरवल्लभिदे<sup>13</sup> कावेरिय-  
 37 दक्षिणे पाडमंगलया[१०] [१०]लुभौ तिरुनलूरपि<sup>14</sup> सेरनैवड-  
 38 पेरुमानलूरपि उत्तरेयाक्षकन्याय<sup>15</sup> राजराजवल्लभि-  
 39 धे प्रवृजपदे सुनेपुङ्गनलूरधा उभौ श्रीरंगराजय परि-  
 40 यार्थं<sup>16</sup> नारायणवल्लभि[१०]नतः सेनैव<sup>17</sup> देवराजेन दत्तं श्रीव-  
 41 नाधुधारया<sup>18</sup> ॥ स्वस्ति श्री जयाधुदाय शिववर्ष<sup>19</sup> ११५० म्रव-  
 42 गसंवच्छ<sup>20</sup>रद कार्तिकसुध उत्तामुह[१०]दसि<sup>21</sup>पुण्यकालद  
 43 श्रीम<sup>22</sup>महाराजाधिराजपरमेस्वर श्रीवीरप्रतापदे-  
 44 वरायमहारायक श्रीरंगनाथदेवरिगी नारायणसेवी-  
 45 से[१०]वगल हेसरजि श्रीदु अचसरव नडसुव अदके<sup>24</sup> दिन  
 46 [१०]दके<sup>25</sup> हजेरडु परिवारणनंदादीविगिवनमोक्षी श्री-

Second Plate: Second Side.

- 47 दु तिरुनालु न(१)डुदके<sup>26</sup> कोट्ट दर्ममात्तन<sup>26</sup> [1\*] उत्तामह<sup>21</sup>[१]-

<sup>1</sup> Read निषेवते.

<sup>2</sup> Read चिन्दु.

<sup>3</sup> Read पुण्य.

<sup>4</sup> Read त्स.

<sup>5</sup> Read राजनश्रीरत्नानिधिकावेयी.

<sup>6</sup> Read श्रीरंगराजय-परिचयार्थं.

<sup>7</sup> Read जयाधुदयवक्त.

<sup>8</sup> Read न.

<sup>9</sup> Read चान्दके

<sup>10</sup> Read भुजंगविन्दोन्नतः.

<sup>11</sup> Read-व.

<sup>12</sup> Read गच्छीसी.

<sup>13</sup> Read सुभाषा.

<sup>14</sup> Read पाण्डसङ्गलया-अपुभी.

<sup>15</sup> Read श्यामाभिषमताः सेनैव.

<sup>16</sup> Read त्स.

<sup>17</sup> Read व.

<sup>18</sup> Read धर्म.

<sup>19</sup> Read गच्छीसी.

<sup>20</sup> Read नि.

<sup>21</sup> Read मकेषादे.

<sup>22</sup> Read इ.

<sup>23</sup> Read सुभाषाया.

<sup>24</sup> Read अर्थाधुधारया.

<sup>25</sup> Read उत्तामहादमी.

<sup>26</sup> Read ददके.

2 श्रीगणेशाय नमः सनमः सनमः सनमः सुगुण  
 4 त्रुवि वेङ्कयाम् सनमः सनमः सनमः सनमः सनमः  
 6 सुताय सनमः सुताय सनमः सुताय सनमः सुताय सनमः  
 8 श्रीगणेशाय नमः सनमः सनमः सनमः सनमः सनमः  
 10 हास्यते च तदा सनमः सनमः सनमः सनमः सनमः  
 12 वाहुतमपापुष्पमस्तु सनमः सनमः सनमः सनमः सनमः  
 14 तैरासरीरवः सनमः सनमः सनमः सनमः सनमः  
 16 हि तदा सनमः सनमः सनमः सनमः सनमः  
 18 श्रीगणेशाय नमः सनमः सनमः सनमः सनमः सनमः  
 20 तदा सनमः सनमः सनमः सनमः सनमः  
 22 श्रीगणेशाय नमः सनमः सनमः सनमः सनमः सनमः

24 पञ्चालैरेवनायमहीनाहाताही त्रुतिनुत  
 26 त्रिभुमेति मदि त्रुतिनुत त्रुतिनुत त्रुतिनुत त्रुतिनुत  
 28 त्रुतिनुत त्रुतिनुत त्रुतिनुत त्रुतिनुत त्रुतिनुत  
 30 त्रुतिनुत त्रुतिनुत त्रुतिनुत त्रुतिनुत त्रुतिनुत  
 32 त्रुतिनुत त्रुतिनुत त्रुतिनुत त्रुतिनुत त्रुतिनुत  
 34 त्रुतिनुत त्रुतिनुत त्रुतिनुत त्रुतिनुत त्रुतिनुत  
 36 त्रुतिनुत त्रुतिनुत त्रुतिनुत त्रुतिनुत त्रुतिनुत  
 38 त्रुतिनुत त्रुतिनुत त्रुतिनुत त्रुतिनुत त्रुतिनुत  
 40 त्रुतिनुत त्रुतिनुत त्रुतिनुत त्रुतिनुत त्रुतिनुत  
 42 त्रुतिनुत त्रुतिनुत त्रुतिनुत त्रुतिनुत त्रुतिनुत  
 44 त्रुतिनुत त्रुतिनुत त्रुतिनुत त्रुतिनुत त्रुतिनुत  
 46 त्रुतिनुत त्रुतिनुत त्रुतिनुत त्रुतिनुत त्रुतिनुत

४८ दप्रितानुत्तरु ३ ॥ ६ ॥ मरासन्तानद्व  
 ४९ रसोवृण्णकालरत्नं गुणनद्रात्रीचरलितोविभुव  
 ५० कसंक्षिपिदक्षिणाडुकादिरत्नरत्नराजनागव  
 ५१ गिराचूलाजापदंविभोमराचराभोमकिभिर  
 ५२ पठितोमसवक्तुचदमासादस्यपाडाभाचम  
 ५३ क्वातिविषवपक्षिवावद्विपनामनीचम  
 ५४ क्वाडभ्रमचदमोनलियपोडमजलदभ्रम  
 ५५ दचलरत्नप्रितनलानुचमाम्भोसचनेनडुप  
 ५६ मानैतलमगाभोमरविहृकैरत्नमाम्भो  
 ५७ ककुलानुत्तरुचकुचमाम्भोमाम्भो  
 ५८ उमलचकुमैलम्विभुवकुमैरत्नमाम्भो  
 ५९ ककुलगाम्भोमाम्भोमाम्भो  
 ६० नचवगुसीमोसलुवचमैरत्नमाम्भो  
 ६१ नचयिचुचमोचोसलुमचमैरत्नमाम्भो  
 ६२ उमनचिचकुमोमाम्भोमाम्भो  
 ६३ कुलचकुमैलम्विभुवकुमैरत्नमाम्भो  
 ६४ ककुलचकुमैलम्विभुवकुमैरत्नमाम्भो  
 ६५ ककुलचकुमैलम्विभुवकुमैरत्नमाम्भो  
 ६६ ककुलचकुमैलम्विभुवकुमैरत्नमाम्भो

६८ चिकुंगादसकलसुवक्षीधायसकुलनगो  
 ६९ दायनियनिकपञ्चलपाणाककिमिमागकि  
 ७० सिदुसाथकुंगादमपमोगतैरत्नमाम्भो  
 ७१ गिमाचकुमैलम्विभुवकुमैरत्नमाम्भो  
 ७२ कोटवागिराचोचराजापदंविभोमराचरा  
 ७३ गाम्भोमाम्भोमाम्भोमाम्भो  
 ७४ चकुलचकुमैलम्विभुवकुमैरत्नमाम्भो  
 ७५ ककुलचकुमैलम्विभुवकुमैरत्नमाम्भो  
 ७६ ककुलचकुमैलम्विभुवकुमैरत्नमाम्भो  
 ७७ ककुलचकुमैलम्विभुवकुमैरत्नमाम्भो  
 ७८ ककुलचकुमैलम्विभुवकुमैरत्नमाम्भो  
 ७९ ककुलचकुमैलम्विभुवकुमैरत्नमाम्भो  
 ८० ककुलचकुमैलम्विभुवकुमैरत्नमाम्भो  
 ८१ ककुलचकुमैलम्विभुवकुमैरत्नमाम्भो  
 ८२ ककुलचकुमैलम्विभुवकुमैरत्नमाम्भो

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- 48 'दसोपुंष्य'काण्डदलु तंगभद्रातीरदलि श्रीविष्णुप[1]-  
 49 असंनिधियज्ञि नाज<sup>2</sup> माडिद सङ्गगीदानागव[1]<sup>3</sup>  
 50 मि श्रीरंगनाथदेवरिगे चंगरंगभोग चमिरितु-  
 51 पडिगे तसकच्छरद चासाड सुय पाण<sup>4</sup> चारभ्य-  
 52 वागि चिरिप्र<sup>5</sup>पक्षिवावडिय राजगंभीर चीळ  
 53 नाड चमरदहीभलिय पांडमंगलद ग्राम १ इ-  
 54 दरलुहलि तिरनालूर ग्राम १ सेरनेभंडपेस-  
 55 मालीनलूर<sup>6</sup> ग्राम १ चतु<sup>7</sup> पिडाकीसङ्ग ग्राम चींद-  
 56 के कुल १४०३ [1\*] वडकर<sup>8</sup> राजराजवळना-  
 57 ड मलनाड मेलेसुरिय सुनेपुडनलूर गा-  
 58 म चींदके<sup>9</sup> कुल ४२० [1\*] उभय(:)ग्रामयेरड-  
 59 कां कुळगव[1\*]ण १८२३ [1\*] कंदग्राम एर-  
 60 डर चतुसीमेमे सलुव नचे<sup>10</sup> पुंघे वा-  
 61 नूपयिर पुंघीर वांसलुमनेपेरक-  
 62 डमे<sup>11</sup> तरिकडमी<sup>12</sup> मावडे मरवडे  
 63 कुळवडे कसायं तिरिगे<sup>13</sup> आयं पे-  
 64 कडमे<sup>14</sup> तरिकडमे<sup>15</sup> चीलुकुनीपा-  
 65 ट मङ्गमे<sup>16</sup> कठिगेभवसर पटे-<sup>17</sup>  
 66 काणिके आडिकातिकी(1)पघै म-  
 67 तु<sup>18</sup> एनुजंता होसवरि<sup>19</sup> हलिव-

Third Plate: First Side.

- 68 रि मुंताद सकल सुवर्नादाय सकलभता-<sup>20</sup>  
 69 दाय निधिनिलेपजलपाषाण चक्षिणि आगामि  
 70 सिद्धसाध्य मुंताद अष्टभोगतिज[:\*]स्वाम्यस[चि]तव[1]-  
 71 गिमाचंद्रार्क स्ता<sup>21</sup>यियागि सर्वमान्यवागि सेरिसि  
 72 कोटेवागि श्रीरंगनाथदेवरिगे चंगरंगभो-  
 73 नू असुतपडियनु नडसि सुकदिं अनुभविसु-  
 74 वडु ॥ दानपासनयोर्मध्ये<sup>22</sup> दानाच्छेयोनुपासनं [1\*] दा-

<sup>1</sup> Read पुंष्य.

<sup>2</sup> Read तसकच्छरद चासाडयच पायमे.

<sup>3</sup> Read चतु.

<sup>4</sup> Read पुनपयिर वांसलुमनेपेरकडमे.

<sup>5</sup> Read पेकडमे. This and tari-kaḍamat are repeated unnecessarily.

<sup>6</sup> Read काणिके पच ननु.

<sup>7</sup> Read स्ता.

<sup>8</sup> Read नाज.

<sup>9</sup> Read तिरचिरापडि.

<sup>10</sup> Read वडकरे.

<sup>11</sup> Read कडमे.

<sup>12</sup> Read होसवरि.

<sup>13</sup> The letter न in पासन looks like व.

<sup>14</sup> Read माङ्गवागि.

<sup>15</sup> Read सेरनेवेनुरपेसमाळ. नडु र.

<sup>16</sup> Read चान्दके.

<sup>17</sup> Read डे.

<sup>18</sup> Read ता.



75. नात्स्वर्गमवाप्नोति पालनादनु<sup>1</sup>तं पदं ॥ [22\*] स्वदत्तां [प]-  
 76 रदत्ता<sup>2</sup> वा यो हरित वसुंधरा[म् ।\*] षष्टिवर्षसह[त्रा]-<sup>3</sup>  
 77 णि विष्टा<sup>4</sup>यां जायते क्रिमिः<sup>5</sup> ॥ [28\*] एकैव भगिनी लोके स-  
 78 वैषामेव भूभुजां [।\*] न भोग्या न करग्राह्या विप्रद-  
 79 ता वसुंधरा ॥[24\*] स्वदत्ताहि<sup>6</sup>गुणं पुण्यं परदत्तानुपाल-  
 80 नं [।\*] परदत्तापदारेण<sup>7</sup> स्वदत्तं निष्फलं भवेत् ॥[25\*] सामान्यो-  
 81 यं धर्मसेतु नृपाणां काले काले पालनीयो भवद्भिः । सर्वा-  
 82 नियतानु<sup>10</sup>न्नाविनः[।\*] पार्थिवेद्रान् भुयो भुयो<sup>11</sup> याचते रामचंद्रः[॥26\*]  
 83 श्रीविरूपाक्ष<sup>12</sup>

## ABSTRACT OF CONTENTS.

Verso 1. Adoration to Śambhu (Śiva).

V. 2. Adoration to Gaṇeśa.

V. 3. Adoration to Varāha.

Vv. 4-5. On earth, as the fruit of its *tapas*, was born Yadu in the family of the Moon, which came out of the ocean of milk and is worn by Śiva on his head.

Vv. 6-7. In his race was born a king named Saṅgama. His middle son was Bukka, who resembled the jewel *kaustabha* among other jewels.

Vv. 8-9. To him by Gaurāmbikā was born a son, named Harihara, who was gentle and famous. The renown of his making the sixteen great gifts (*mahādāna*) redounded even beyond the fourteen worlds.

Vv. 10-12. His son was Pratāpa-dēva-Rāya, who appeared the embodiment of the happiness of his subjects. He conquered his enemies in battles by the prowess of his arms and obtained the favour of Vijaya-Lakshmi (goddess of Victory). To him, as husband of Dēmāmbikā, was born the prince Vijaya-Bhūpati.

Vv. 13-18. The queen of Vijaya-Bhūpati was Nārāyaṇāmbikā. As the fruit of the meritorious acts done by them in their previous birth, Dēva-Rāya was born to Vijaya-Bhūpati and Nārāyaṇāmbikā and distinguished himself on earth. He is compared to Vikramāditya in valour, to Bhōja in his *bhōga* (?) and to Rāja-rāja (i.e. Kubēra) in his munificence. The kings of the Aṅga, Kalinga, Vaṅga, etc., countries did homage to this king, holding *chāmara*s and other royal insignia in their hands. He bore the *birudas* Rāj-ādhirāja, Rāja-param-śvara, Bhāsh-ātīlaṅghi-bhūpāla-bhujāṅga, Māru-rāyara-gaṇḍa, Para-rāja-bhayaṅkara and Hindu-rāya-suratrāpa.

V. 19 to the end of line 41. Dēva-Rāya, who, seated on his ancestral throne in Vijayanagara, which has the Tuṅgabhadra as its ditch, ruled the earth, made the grant of the villages of Pāṇḍa-maṅgalam, Tirunālūr, Śēranaibaṇḍa-perumā-nālūr and Śunepaha-nālūr to the god Raṅganātha. The gift was made in the Śaka year 1349, which is given by the chronogram *dhivalōka* and which corresponded to the (cyclic) year Plavaṅga, on a Monday

<sup>1</sup> Read अनु.

<sup>4</sup> Read हा.

<sup>7</sup> [Read °हारेण—Ed.]

<sup>10</sup> Read °नेतान् भाविनः

<sup>12</sup> This line is written in Telugu-Kannada characters.

<sup>2</sup> Rep 1 दत्ता.

<sup>5</sup> Read क्रमिः

<sup>6</sup> Read °पदारेण स्वदत्तं.

<sup>11</sup> Read भूयी भूयी.

<sup>3</sup> Read षष्टि° हजाभि.

<sup>6</sup> Read °हि.

<sup>8</sup> Read नृ.

the twelfth *tithi* of the bright fortnight in the month **Kārttika**, in the presence of the god **Virūpāksha** on the bank of the river **Tuṅgabhadra**. The villages **Pāṇḍa-maṅgalam**, **Tirunālūr** and **Sēraṇaibaṇḍa-perumā-nalūr** are said to have been situated on the south bank of the river **Kāvēri**, in the **Rājagambhira vaḷaṇḍu**, belonging to the **Trisīrāppalli rājya**, and **Sunaipuhā-nalūr** in the **Rājarāja vaḷaṇḍu** of the same *rājya*, but situated on the northern bank of the **Kāvēri**.

Lines 41-74. In the **Śaka year 1350**, **Plavaṅga**, on the auspicious occasion of the **Utthāna-dvādaśī** in the bright half of the month **Kārttika**, the king **Vira-Pratāpa-deva-Rāya Mahārāya** gave the following *śāsana* (order) for performing one *avasara* consisting of twelve *harivāṇas* of perpetual lamps, garlands and one festival every day to the god **Raṅganātha** in the name of **Nārāyaṇadēvi-auva** : the gift of the villages of **Pāṇḍa-maṅgalam**, **Tirunālūr** and **Sēraṇaibaṇḍa-perumā-nalūr**, yielding 1,403 *kuḷa-gadyāṇas*, and **Sunepuha-nalūr**, yielding 420 *kuḷa-gadyāṇas*, was made for the *aṅga*, *raṅga*, etc., of the god **Śrī-Raṅganātha**, as an auxiliary to the *gō-sahasra mahādāna* made by the king on the auspicious occasion of **Utthāna-dvādaśī** in the presence of the god **Virūpāksha** on the bank of the river **Tuṅgabhadra**. The villages **Pāṇḍa-maṅgalam**, **Tirunālūr** and **Sēraṇaibaṇḍa-perumā-nalūr** were in **Amarada kōbaḷi** of the **Rajagambhira vaḷaṇḍu** in the **Chirichrāpalli chāvaḍi**, whereas **Sunepuhā-nalūr** was situated in the **Mēlamurī** of the **Maḷa nāḍu**, a sub-division of the **Rājarāja vaḷaṇḍu** in **Vaḍagarai** (northern bank of the **Kāvēri**). These villages were to be enjoyed from the first *tithi* of the bright fortnight of the month **Āshāḍha** of the same year. The king granted these villages with the following rights of enjoyment : namely, the taxes on the lands under wet and dry cultivation, as also *vāṇ-payir* and *puṇ-payir*, the taxes called *thev āsal*-, *maṇai-pēru-kaḍamai*, *taṟikka-ḍamai*, *māvaḍai*, *maravaḍai*, *kuḷavaḍai*, *kal-āyam*, *tirigui-āyam*, *pēr-kkaḍamai*, *taṟikkaḍamai*, *aḷkunipāṭṭam*, *mahamai*, *kaṭṭige-avasara*, *paḍai-kānikkai*, *Āḍi-Kārttigai-pachchai* and all other new and old taxes, all income in gold and paddy and the eight kinds of enjoyment, *nidhi*, *nikshēpa*, etc.

Vv. 22-26. The usual admonitory and imprecatory verses.

Line 83 contains the words **Śrī-Virūpāksha**, the king's signature.

## No. 9.—MOMIGATTI INSCRIPTION OF THE 49TH YEAR OF VIKRAMADITYA VI.

By LIONEL D. BARNETT.

**Momigaṭṭi** is a village in **Dhārwar District**, a few miles to the north-west of **Dhārwar town**, in lat.  $15^{\circ} 30\frac{1}{2}'$  and long.  $74^{\circ} 59'$ , according to the **Bombay Survey**.<sup>1</sup> The present inscription, now published for the first time, was found in the local temple of **Kalamēśvara**, on the left side of the image. An ink-impression was prepared for the late **Dr. Fleet**, which is now in the **British Museum** ; from it I have edited the text. The stone has a rounded top decorated with sculptures, namely, in the centre a *linga*, on the proper right of which is a priest standing facing it, while another upright figure stands to the proper left, all three being in a shrine ; to the proper right of the priest, a cow and calf ; to the right of the latter, a scimitar ; in the opposite corner, a bull ; above these, the sun (on proper right) and moon (on left). Below this is the inscribed area, in two compartments : the first of these, comprising lines 1-2, is 2 ft.  $3\frac{1}{2}$  in. wide and  $2\frac{1}{2}$  in. high, and the second, containing lines 3-30, is of the same width and 2 ft. 9 in. high.—The character is good **Kanarese**, of an upright rounded type that was beginning to come into use about the middle of the twelfth century. The height of the letters varies from  $\frac{1}{2}$  in. to  $\frac{3}{4}$  in. The *jh* (l. 9) and *z* (ll. 19, 26) may be noted.—The language is Old **Kanarese**, with two

<sup>1</sup> The "Moomeeguttee" of the **Indian Atlas** seems to be intended for **Momigaṭṭi** ; but its position does not quite tally with that of the latter as given in the **Survey**.

formal Sanskrit verses (Nos. 1 and 5). The ancient *ḷ* has been changed to *ḥ* in *kūḷam* (l. 14), *bēḷpa* (l. 16), *uḷḍavarggey* = (l. 27), *ḷ-kōṭi* (l. 28), and to *r* in *garḍḍey*[u\*]*maṇ* (l. 22); it is falsely used for *r* in *toḍaḷa* = (l. 16). *P* is changed to *h* in *haḷḷi*° (ll. 19, 20), but elsewhere retained. Three words are of some lexical interest, viz. *tyāga-jaga-jhampi jhampalāchāryya* (l. 9), on which see above, Vol. XII, p. 251, and *nṛita* (l. 14), which is abstracted from the ordinary *sūnṛita*, and is parallel to *anṛitika*, "untruthful" in Aśvaghōsha's *Buddha-charita*, II. ii.



The record, after referring itself in ll. 2-4 to the reign of Tribhuvanamalla (Vikramāditya VI), introduces the Kadamba feudatory Jayakēsi [II], who is decorated with the characteristic titles of his dynasty, and his senior queen Maṇḍala-dēvi (the daughter of Vikramāditya VI), as jointly reigning (ll. 4-13). On the historical points involved herein it suffices to refer the reader to Vol. XIV above, p. 299 f. Then follow verses in praise of Vāmaśakti, a Śaiva divine, and Udayamma Gavunḍa (ll. 13-17), after which comes the formal statement of a gift of land and houses by the latter to the sanctuary presided over by Vāmaśakti (ll. 17-24).

The date is given on ll. 17-18 as : the cyclic year Krōdhi, the 49th of the Chālukya Vikrama era ; Āshāḍha śuddha 5 ; Sunday. This is irregular. The given *tithi* was current at sunrise on Wednesday, 18 June, A.D. 1124, and ended about 9 h. 16 m. after mean sunrise.<sup>1</sup>

The only places mentioned are Kundūr (l. 19), Eranigereyahaḷḷi (l. 19), Konnasagere (l. 21), and the *tīrtha* (l. 25). Kundūr is the modern Narēndra, on which see above, Vol. XIII, p. 296.






### TEXT.<sup>2</sup>

[Metres : vv. 1, 5, *Anuṣṭubh* ; vv. 2-4, *Kanda*.]

- 1  Namas=tuṅga-ś[i\*]raś-chuṁbi-chāndra-chāmara-chāravē [1\*] trailōkya-  
nagar-āraṁbha-māḷa-stambhāya Sa(śa)mbhavē || [1\*]
- 2  Svasti samasta-bhuvan-āśraya Śri-Pri(pri)thvi-vallabha mahārājādhirāja  
paramēśvara paramabhaṭṭ[ā]-
- 3 rakam Satyāśraya-kuḷa-tīlakam Chāluky-ābharapam śrīma[t\*]-Tribhuvanamalla-  
dēvara vijaya-rājyam=u-
- 4 ttarōttar-ābhivṛddhi-pravarddhamānam=a-chāndr-ārka-tāram-baram saluttam-ire ||  
© Tat-pāda-padm-ōpajivi || ©' ©
- 5 svasti samasta-bhuvana-samstōyamāna Hara-Dharanī-prasūta-Trīlōhana-Kadamba-  
vāṁśa-mah-ōḍa[ya]
- 6 Mahīdharēndhra(dra)-śikhar-ābhyudayamāna-mahā-prachāṇḍa-mārttamḍa mārttamḍa-  
kar-ātittivra-nija-pratā[pa]-
- 7 vaśīkri(kri)ta-sakaḷa-mahī-maṇḍalan=uttuṅga-simha-lāmochohanam vāṇara-mahā-  
dhvajam permmaṭṭi-tūryya-nirghōṣhanam
- 8 ohaturā(ra)śīti-nagar-ādhishtit-āśhāś-āśvamedha-dīkshā-dīkshita-kuḷa-prasūta Hima-  
vad-girindra-rumdra-śikhara-
- 9 sthāpita-mahā-śakti-prabhāvam tyāga-jaga-jhampi jhampalāchāryya niśamka-Rāma-  
śu(su)bhāṭa-kanaka-nikash-ōpaḷa-

<sup>1</sup> I have to thank Mr. R. Sewell for his kindness in verifying my calculations.

<sup>2</sup> From the ink-impression.

- 10 śaraṇ-āgata-vajra-prākāra lōk-aika-kalpa-druma saṁkrānti-dhavaḷa mūrtti-Nārāyaṇa  
kirtti-mārttaṁḍa
- 11 maṇḍaḷika-lalāṭa-paṭṭa vairi-gharaṭṭa śu(su)bhaṭa-rāja-śikhāmaṇi Kāḍamba-  
chūḍāmaṇ-ity-akhiḷa-nām-āva-
- 12 ḷi-samā(ma)lāmḷitar-appa śrīman-mahāmaṇḍaḷēśvaraṁ Jayakēsi-dēvar śrīmat-  
piriy-arasi Maḷḷala-ma-
- 13 hādēviyaru sukha-saṁkathā-vinōdadim rājyaṁ-geyyuttam-ire ||  Pasid-ār-  
bband-upa bēḍidoḍ-osed-a-
- 14 tt-ill-ennad-ikkut-irppare kūḷam vasudhāṭalam-ellam baṇṇisuvinegam Vāmaśakti-  
paṁḍita-dēvar || [2\*] Nṛita-vākyam vaṁḍi-ja-
- 15 n-āśrita-sura-taru Malla-Gavumḍan-arra(gra)-tāṇṭjam matimantam Hara-bhaktam  
kshitiy-olag-Udayamma-Gavu-
- 16 ḍan-uttama-purusha || [3\*] Siḍil-annam ripu-nichayam 'toḍaḷ(rd)-eḍeyol bēḷpa  
janake sura-taruv-annam kuḍut-e-
- 17 ḍeyol Bāṇana vol Mṛiḍa-bhaktam dharapitalaḍol-Udayama-Gavumḍa' || [4\*]   
Svasti śrīmach-Chāḷukya-
- 18 Vikrama-varshada 49neya Krōdhi-saṁvatsarad-Āshāḍa(ḍha) su(śu)ddha 5  
Āḍityavāraḍaṁḍu śrīman-mahā-pa-
- 19 ṭṭanaṁ Kundūra padinaṇuvar-ggāvumḍugaḷa Pañcha-maṭha-sthānada sannidhiyol-  
Eranigereyahalliy-Ā-
- 20 karika(?)<sup>2</sup> Malla-Gavumḍana magan-Udayama-Gāvumḍam halliyindam paḍuval-  
kal-puṁjikey-aḍaṇim mṭ-
- 21 ḍal-ondu mattar=pparala keyyuman=ūr-umba Konnasagereya mḍaḍa kōṭiyalu nūṇu  
ka-
- 22 mma gardḍey[u\*]maṁ dēvarim teṁkal=eraḍu maneya nivēśanamumam Kali-dēva-  
svāmiya sthān-āchā[ryya Vā]-
- 23 maśakti-paṇḍitargge kāl-garchchi dhārā-pūrvvakam māḍi sarvva-namaśya(sya)-  
sarvva-bādhā-parihāram=[āgi]-
- 24 y-Udayama-Gāvumḍam-n-ā-chaṁdra-sthāyiy-āgi biṭṭa dharmma || I dharmmamam  
pratipāḷi[si]-
- 25 davargge Gaṁge Vārapāśi Kurukshētra Prayāgey-emba puṇya-tirtha-sthānamgaḷol  
sāsira kavi[le]-
- 26 ya kōḍum koḷagumam pañcha-ratnaḍol-kaṭṭisi vēda-pāragar-appa mahā-brāh-  
maṇargge dānam-geyda [pha]-
- 27 la I dharmmamam-aḷidavarggey-ā sās[i\*]ra kaviley[u\*]man-ā vēda-pāragar-appa  
mahā-brāhmaṇa[ru]-
- 28 maṁ eḷ-kōṭi tapōdhanaruman-ā puṇya-tirtha-sthānamgaḷol-konda mahā-pātakan-  
akku || 
- 29 Sva-datt[ā\*]m para-datt[ā\*]m vā yaṁ(yō) harēti(ta) vasumḍharṣ[m\*] shashṭir-  
virisha-shāsaṇi<sup>3</sup> vi-
- 30 shṭa(shṭhā)yāṁ jāyatṣ krimi<sup>4</sup> [5\*]  

<sup>1</sup> The syllable *ma* is metrically superfluous.<sup>2</sup> Apparently so; but the first *ka* may be read as *ra* or *ga*.<sup>3</sup> Read *varsha-sahasraṇi*.<sup>4</sup> Read *krimiṭ*.

## TRANSLATION.

(Verse 1.) Homage to Śambhu charming with the yak-tail fan which is the moon kissing his lofty head, the foundation-column for the construction of the city of the three worlds

(Lines 2-4.) While the victorious reign of—hail!—the refuge of the whole world, favourite of Fortune and Earth, great Emperor, supreme Lord, supreme Master, ornament of **Satyāśraya's** race, embellishment of the **Chalukyas**, king **Tribhuvanamalla**, was advancing in a course of successively increasing prosperity, (*to endure*) as long as moon, sun, and stars :—

(Lines 4-13.) While he who finds sustenance at his lotus-feet,—hail!—the **Mahāmaṇḍa-lēśvara Jayakēśi-dēva**, who is decorated with the whole series of titles of honour, to wit, “ the noble scion of the **Trilōchana-Kadamba** lineage sprung from Hara and the Earth which is praised over the whole world; great august sun rising upon the peaks of the Lord of Mountains; fascinating the whole circle of the earth by peculiar majesty exceedingly intense as the sun's rays; having for **crest** a stately **lion**; having a **banner** (*bearing the device*) of a **great ape**; who is (*saluted*) with the noise of *permaṭṭi* drums and (*other*) musical instruments; who is sprung from the race presiding over eighty-four cities and consecrated in the consecratory rites of eighteen horse-sacrifices; who has established the puissance of his might upon the massive summits of the Lord of Mountains, the Himavat; a *jhampalāchārya* surpassing the world in bounty; a **Rāma** in intrepidity; a touchstone for the gold of warriors; an adamant castle for seekers of protection; a unique tree of desire for the world; white (*of fame*) as the time of conjunction<sup>1</sup>; a **Nārāyaṇa** incarnate; a sun of glory; a frontal fillet of feudatory princes; a grindstone to foes; a crest-jewel of warrior kings; a crest-gem of the **Kadambas**,” and the Senior Queen **Maṇḍala-mahā-dēvi**, were reigning with enjoyment of pleasant conversations :—

(Verse 2.) If any, being hungry, should come and ask for food, **Vāmaśakti Paṇḍita-dēva** will gladly give to him rice without saying nay, so that the whole earth praises (*him*).

(Verse 3.) Of **Malla Gāvunḍa**, who is pleasant of speech, a celestial tree to panegyrists and dependents, the eldest son is **Udayamma Gāvunḍa**, who is sage, devoted to Hara, a right noble man on earth.

(Verse 4.) Like a thunderbolt on occasions when hosts of foes assail (*him*), like a celestial tree on occasions when he makes gifts to suitors, devoted to Mṛḍa like **Bāpa**, is **Udayama Gāvunḍa** on earth.

(Lines 17-24.) Hail! On Sunday, the 5th day of the bright fortnight of **Āshāḍha** in the cyclic year **Krōdhi**, the 49th (*year*) of the **Chalukya-Vikrama** era, in the presence of the Sixteen Gāvunḍas of the great city of **Kundūr** (*and*) the establishment of the Five Maṭhas, **Udayama Gāvunḍa**, son of the **Ākarika(?) Malla Gāvunḍa** of **Erāṇigereyahalli**, having laved the feet of **Vāmaśakti Paṇḍita**, **Āchārya** of the establishment of **Kali-dēva-svāmi**, with pouring of water granted for as long as the moon shall endure a pious foundation on *sarva-namasya* tenure, immune from all conflicting claims, (*comprising*) a gravel-field of one *matṭar* west of the village (*and*) east of the stone-heap, and a paddy-field of one hundred *kamma* at the eastern corner of the **Konmasugere** used by the town, and two dwelling-houses south of (*the sanctuary of*) the god.

(Lines 24-28 : a prose formula of the usual type.)

(Verse 5 : a common Sanskrit verse.)


<sup>1</sup> Cf. *dirāḷichara-dhavalam*, above, Vol. XII, p. 269. The phrase probably refers to the **Dipāvālī** or **Diwālī** festival, from **Āśvina** kr. 14 to **Kārttika** śu. 2.

## No. 10.—ARASIBIDI INSCRIPTION OF THE REIGN OF SOMESVARA I: SAKA 969.

BY LIONEL D. BARNETT.

**Arasibiḍi**, the ancient **Vikramapura**, is a decayed village in the Hungund *tāluka* of Bijāpūr District, situate in lat. 15° 54' and long. 75° 58' (cf. *Ind. Ant.*, Vol. 30, p. 260). Its name is written as *Arsubidda* on the Indian Atlas sheet 58 and the Hyderabad Survey sheet 30. In the local temple known as the *Sāḷeguḍi* was found a broken tablet containing the present record; an ink-impression was prepared for the late Dr. Fleet, which is now in the British Museum, and from it I now edit the text.

The upper part of the stone is decorated with some **sculpture**. Immediately over the inscribed area, on a plinth, is a figure of a squatting Jina, with a cow and sucking calf on his proper left, between two columns; and above this is a series of architectural divisions culminating in a vase-shaped *śikhara*. The inscribed area below is about 2 ft. 2½ in. broad and 2 ft. 2 in. high; but a line or two at the bottom is lost.—The character is a fair Kanarese of the period, the letters vary from ¼ in. to ⅝ in. in height. The *ri* of *riṣhiyargga*[*m*⁎] in l. 8 is denoted

by a modified *ri* with a tail attached .—The language is Old Kanarese prose, except for the Sanskrit verse-formula of which the first two letters appear on l. 22. The archaic *ḷ* is changed to *ḥ*, except in *eppattara* (l. 12, for *ḷp*⁎, through *ērpp*⁎). The word *sarugi* (l. 7) is of some lexical interest.

The record, after referring itself to the reign of **Trailōkyamalla-dēva**, i.e. **Sōmēsvara I** (ll. 1-4), relates that **Akkā-dēvi**, while in the camp around the fortress of **Gōkāge**,<sup>1</sup> made a grant of lands to the *Gopada-beḍaṅgi*<sup>2</sup> Jain temple at **Vikramapura**, for the maintenance of the establishment and of the attached friars and nuns, among whom special mention is made of **Nāgasēna Paṇḍita** of the *Hogari*<sup>3</sup> *Gachchha* of the *Varasēna Gaṇa* of the *Māla Saṅgha* (ll. 4-9). The rest of the inscription is taken up with the details of the endowment; among these we learn that some of the land was purchased from **Daḍigarasa** (l. 17), who was very possibly a member of the *Bappura* family which has left a record of its history in the *Sāḍi* inscription no. K. (above, Vol. XV, p. 106; cf. *Ind. Ant.*, Vol. XXX, p. 266).

The date is given on ll. 9-11 as: Śaka 969, the cyclic year *Sarvajit*; the new-moon of *Chaitra*, a Sunday; an eclipse of the sun. These details are perfectly regular. The given *tithi* corresponded to **Sunday, 29 March, A.D. 1047**, on which day it ended 6 h. 14 m. after mean sunrise.<sup>4</sup> On the same day, at 5 h. 54 m. after mean sunrise, there was an eclipse of the sun (*Indian Calendar*, p. 121).

The following place-names are mentioned: **Gōkāge** (l. 6); **Vikramapura** (ll. 6, 13); the **Kisukāḍu Seventy** (ll. 11-12); **Gāpada Hālūr** (l. 12); **Muruvadina Pālu** (l. 13); **Rāyagaṭṭe** (l. 15); the tank of **Kappaḍi** (l. 18); **Benares** (l. 19). **Gōkāge** is the modern **Gōkāk**, the headquarters of the *Gōkāk tāluka*, in Belgaum District, situate in 16° 10' lat. and 74° 49' long. **Vikramapura** is **Arasibiḍi** (see above). On **Kisukāḍu** see *Ind. Ant.*, Vol. XXX, p. 259 ff. **Gāpada Hālūr** is given on the Indian Atlas as "*Ganuduhāl*," about 3 miles S.E. of **Arasibiḍi** in lat. 15° 52½' and long. 76° 1' (cf. *ibid.*, p. 261). The other local names I cannot trace.


<sup>1</sup> See *Dyn. Kan. Distr.*, pp. 435, 439. Dr. Fleet understood the words *sutt-trdda* to mean "besieging," which is possible, but not necessary.

<sup>2</sup> This title is evidently derived from *Akkā-dēvi*'s title *gūpada beḍaṅgiyar*, and shows that the temple was under her special patronage.

<sup>3</sup> This name occurs also, in the older form *Pogari*, in *Ind. Ant.*, Vol. XIX, p. 272, and *Ep. Carn.* VII. i., Sk 124.

<sup>4</sup> I have to thank Mr. R. Sewell for his kindness in verifying my calculations.

TEXT.<sup>1</sup>

- 1  Svasti samasta-bhuvan-āśraya Śrī-Pṛithvi-vallabha mahārājādhirāja  
paramēśvara-pa-  
2 ramabhaṭṭāraka Satyāśraya-kula-tilaka Chālukya-ābharāṇa śrīma[t\*]-Trailōkyama-  
3 lla-dēvara vijaya-rājyam=uttarōttar-ābhivri(vṛi)ddhi-pravarddhamānam-ā-chaṇḍr-  
ārka-tā-  
4 raṇi-baraṇ saluttam-ire [I\*] Svasti ari-nri(nṛi)pa-makuṭa-ghaṭita<sup>2</sup>-charaṇ-āravi-  
(vi)mdeyar=Ggaṃgā-snāna-  
5 pavitreyar=ddin-ānātha-chi(chi)ntāmaṇigaḷ-ēka-vākya[ya\*]r-gguṇada beḍamgiyar=appa  
śrīmad-A-  
6 kka-dēvi[ya\*]r Gōkāgeya kōṭeya vu(su)tt-irdda biḍinalu Vikramapurada  
Goṇada-beḍamgiya  
7 Jin-ālayakke khaṇḍa-sphuṭita-sudhā-karmmakkaṇ gandha-dhūpa-dipakkaṇ  
sarugiga[m] Mūla-saṃga(gha)-  
8 Va[ra\*]sēna-gaṇada Hogariya gachchada Nāgasēna-panḍitargga[m\*] all-irppa  
rīshiyargga[m\*] ajiya-  
9 rgga[m\*] āhāra-dānakkam ajiyara kappadakk[k\*]am kuḍuva bhūmi Sa(śa)ka-  
varsha 999 neya  
10 Sarvvajit-samvatsarada Chaim(chai)trād-amāsyē Ādityavāradaṃdina sūryya-gra-  
11 hapa-nimittam dhārā-pūrvvakam māḍi nāgaradh(d)-anubhavape(ne?) mukhyam=  
āgi Kisu-  
12 kaḍ-oppattara baḷiya sarvva-namasyam=āgi biṭṭa bāḍam Gāpada Hālūr=omdu  
13 Vikramapurada yisānyada des[o\*]y[im\*] tōmṭam mattar=omdu ūrim teṃka  
Muṇuvadina pā-  
14 ja nairityada deseṃm paṇḍita-Nāgadēvaṃge sarvva-namasya martta<sup>3</sup> paṇn-  
neraḍu allim teṃka  
15 paṇekāra Kētōjaṃge sarvva-namasya mattar=irppatta-nālku ūrim baḍaga Rāya-  
gaṭṭeyim  
16 mūḍa paṇekāra Kētōjaṃge tōmṭa mattar=omdu allim paḍuva kalkuṭiga  
Sūrōjaṃge sa-  
17 rbha-namasyam mattaru pannerāḍu tōmṭa mattar=omdu Daḍigarasana kayyalu  
māru-goṇḍu dēvargge koṭṭa  
18 bhūmi Kappaḍiya keṇeyim teṃka manneya-v[o]ladalu sarvva-namasya mattaru  
50 [I\*]  
19 I(1) dharmmamam sva-dharmmadim rakshishi(si)davar Vāraṇāsiyalu ondu kōṭi  
kavileyu-  
20 maṇ vēda-pālanar=appa br[ā\*]hmaṇarige koṭṭa pha[la]mam paḍavar I(1)  
dharmmamam=alidava-  
21 r ā sthānadoḷ=anitu kavileyuman=anirpe(tu) brāhmaṇar[umam] . . . . .  
22 sā\* || Sāmā[nyō-yam] . . . . .

<sup>1</sup> From the ink-impression.<sup>2</sup> The engraver has written *gāṭa*, and added *ṛi* in smaller script under the line.<sup>3</sup> Read *mattar*.

## TRANSLATION.

(Lines 1-4.) While the victorious reign of—hail!—the asylum of the whole world, favourite of Fortune and Earth, great Emperor, supreme Lord, supreme Master, ornament of Satyaśraya's race, embellishment of the Chakukyas, king Trailōkyamalla, was advancing in a course of successively increasing prosperity, (to endure) as long as moon, sun, and stars :—

(Lines 4-9.) Hail! she whose foot-lotuses are touched by the diadems of opponent kings, who is pure through bathing in the Ganges, a wishing-jewel to the distressed and masterless, uniform in speech, adorned with virtues, Akkā-dēvi, in the camp around the fortress of Gōkāge, granted land for (the expenses of) plastering the broken and burst (masonry) of the Goṇada-bedaṅgi Jina temple at Vikramapura, and for (the supply of) scent, incense, and lamps, and for *sarugi*,<sup>1</sup> and for the maintenance of Nāgasēna Paṇḍita, (a friar) of the Hogariyu Gachchha of the Varasēna Gaṇa of the Māla Saṅgha, and of the friars and nuns residing there and for the cloaks of the nuns :—

• (Lines 9-18.) The lands given (by her) to the god, which she purchased of Daḍigarasa, on Sunday, the new-moon day of Chaitra in the cyclic year Sarvvajit, the 969th (year) of the Śaka era, on the occasion of an eclipse of the sun, with the performance of pouring of water, were : Gāpada Hālār, a town forming part of the Kisūkāḍu Seventy, granted on *sarva-namasya* tenure, in its entirety,<sup>2</sup> with usufruct of the citizens (Ī); one *mattar* of garden on the north-east of Vikramapura; south of the town, on the south-west of the Muṇuvadu Waste-land, twelve *mattar* on *sarva-namasya* tenure for Paṇḍita Nāgadēva; to the south thereof, twenty-four *mattar* on *sarva-namasya* tenure for the drummer Kētōja; north of the town, east of Rāyagaṭṭe, one *mattar* of garden for the drummer Kētōja; on the west thereof twelve *mattar* on *sarva-namasya* tenure (and) one *mattar* of garden for the stone-mason Sūrōja; (furthermore,) 50 *mattar* on *sarva-namasya* tenure in the estate of the seignior south of the Kappaḍi tank.

(Lines 19-21 : a prose formula of the usual type.)

(Line 22 : the beginning of a common Sanskrit verse.)

## No. 11.—THE BRAHMA-SIDDHANTA OF BRAHMAGUPTA (A.D. 628).

WORKING TABLES FOR COMPUTATION OF ANCIENT DATES BY THE TRUE, OR APPARENT, MOTIONS OF SUN AND MOON.

BY ROBERT SEWELL (I.C.S., RETIRED).

*A continuation of the author's "Indian Chronography."*

311. In para. 257 of my article on "The true longitude of the sun in Hindu astronomy, the *Siddhanta-Sirōmani*" (above, Vol. XIV, p. 241), and again in a later article on *The Siddhanta-Sirōmani*, § 271 (Vol. XV, pp. 159 sqq.), I discussed the question of the values assigned in the seventh century A.D. by Brahmagupta to the twenty-four base-sines of angles in the quadrant; and expressed the opinion that when, but not until, definite assurance was obtainable that the values stated in the only available copies of the *Brahma-Siddhanta* were<sup>3</sup> really those fixed by its author, working Tables framed according to its postulates might safely be prepared for the computation of ancient dates.

<sup>1</sup> This term occurs elsewhere, e.g. in *Ep. Carn.* II (*Sravaṇa Beḷgoḷa*), No. 56, p. 52.

<sup>2</sup> Literally, "one."

<sup>3</sup> One MS. copy in the India Office, London, and Benares printed edition.



In response to my appeal Mr. G. R. Kaye (Curator, Board of Education, Simla) has been kind enough to assist me. He tells me that there can be no doubt but that the values given for the several base-sines in the edition of the *Brahma-Siddhānta*, printed and published in Benares, are correct, and that Brahmagupta certainly made his calculations with a radius ( $\sin. 90^\circ$ ) of 3270', discarding that of 3438', which seemingly had been in use in India since the time of the Greeks.<sup>1</sup> Mr. Kaye went fully into the subject in a very learned article, "*Ancient Hindu Spherical Astronomy*," published in the *Journal of the Asiatic Society of Bengal* in 1919 (*New Series*, Vol. XI, No. 3), which contains (Table 8, p. 187) a list of the sine-values as determined by the authors of the *Paulīsa*-, *Ārya*-, and *Brahma-Siddhāntas*. He points out that, when properly applied, the equations of the sun's and moon's centres obtained from the sine-values of Brahmagupta agree with those derived from the values assigned by the other authorities.

Accordingly I have prepared the Table of Brahmagupta's sines and resulting base-equations of the sun's centre (Table LXXXIX below); and a comparison between these and the equations of the *Siddhānta-Śirōmaṇi* (Table XLVII above, Vol. XIV, col. 9, and Prof. Jacobi's, Tables, XXIVB above Vol. I) proves that there is only a very trifling difference whether we use Brahmagupta's, or the older—and later—sine-values. By the *Siddhānta-Śirōmaṇi*, with radius 3438', the sun's greatest equation, that of  $90^\circ$ ,  $= 2^\circ 10' 31''$ , exact. By the *Brahma-Siddhānta*, with radius 3270', it  $= 2^\circ 10' 31''.19$ . We may therefore safely use Table LXXXIX (below)<sup>2</sup> and Table LIX (above, Vol. XV) for the sun's and moon's equations by the *Brahma-Siddhānta*.

312. The *Brahma-Siddhānta* was composed by Brahmagupta in A.D. 628 and is said to have been extensively used in some parts of India, its principal rival being the *Ārya-Siddhānta* of Āryabhaṭa, known in later years as the *laghu-Ārya* to distinguish it from the *Mahā-Ārya-Siddhānta* of the tenth century. This last, called also the *Second Ārya-Siddhānta*, seems to have had no great following. The *Rājamṛigāṅka*, an astronomical work of A.D. 1042 introduced, according to the information available to the late Sankara Bālkrishna Dikshit, some important changes into the system of Brahmagupta; but unfortunately no complete copy of it has yet been obtained, and the necessary particulars are not to be found in those fragments which have come to light. It is not possible therefore to frame any accurate Tables for calculation by the *Rājamṛigāṅka*, and we must rest satisfied with the assurance of Mr. S. B. Dikshit<sup>3</sup> that the *Siddhānta-Śirōmaṇi* is the same as the *Rājamṛigāṅka* in the matter of calculation of a *pañchāṅg*. Tables for use by the former have already been published by me, comprising the period A.D. 1100-1750 (above, Vol. XV).

All the authorities appear to arrive at similar or almost similar results in their computation of the lunar tithis, when worked by the true or apparent motions of sun and moon; but, since they differ in their estimate of the position of the sun's apsis at a given date, they necessarily differ somewhat in their estimate of the moment in each year when the true sun reaches long.  $0^\circ$ , the moment, that is, of "true Mēsha-samkrānti." This difference leads to differences in the lengths of the true solar months, and consequently to differences in the intercalation and suppression of true lunar months; which differences, again, occasionally cause differences of a whole lunar month in the beginning of the luni-solar year and differences in the names of some of the lunar months therein.

<sup>1</sup> It would be interesting to learn his reason for the change. Later Indian astronomers reverted to the radius of 3438', which is correct. With  $\pi = 3.14159$  the radius  $= 3137.74967$ . Brahmagupta's radius 3270 implies a ratio  $\pi = 3.303$ . The ratio according to Archimedes (B.C. 250) was 3.14286. The ratio  $1 : \sqrt{10}$  mentioned in the *Sūrya-Siddhānta*  $= 3.16228$ .

<sup>2</sup> Or Table XLVII (above, Vol. XIV), col. 9; also Professor Jacobi's Tables XXIVA, XXIVB (Vol. I).

<sup>3</sup> *Indian Calendar*, p. 8.

But we are now better able to deal with these matters than before. Dates can be easily computed by the true motions of sun and moon according to the *Sūrya-Siddhānta* for the whole historical period from A.D. 300 to 1900 (*Indian Calendar*)<sup>1</sup>; according to the *Ārya-Siddhānta* from A.D. 900 downwards (*above*, Vol. XVI); according to the *Brahma-Siddhānta* (*the present paper*) from A.D. 600 to 1200; and according to the *Siddhānta-Śirōmaṇi*, *Rājamaṇḍikā* and other works of the time of Bhāskarāchārya from A.D. 1100 to 1750 (*above*, Vol. XV); these periods comprising the outside limits of use.

And, as regards computation by the mean motions of sun and moon, which system is believed to have been in universal use down to about A.D. 1100, and perhaps in some places to a considerably later date, we now have Tables for work by the *Ārya-Siddhānta* from A.D. 500 to 1400 (*above*, Vol. XVII); while I hope to be able to publish here after a set of similar Tables for the *Brahma-Siddhānta*, also embracing the outside period of use.

All these Tables are framed on the same system, so as to enable calculation to be made as easily and rapidly as possible.

*Elements of the Brahma-Siddhānta.*

313. (i) The length of the mean solar sidereal year is 365·2584375 days, or 365<sup>d</sup> 6<sup>h</sup> 12<sup>m</sup> 9<sup>s</sup>. The *Siddhānta-Śirōmaṇi* adhered to this estimate.

(ii) Brahmagupta's sines of angles of the quadrant differ from those of the other authorities. His sine of 90°, the radius, = 3270' instead of 3438'. His sine of 3° 45' = 214' instead of 225'. The 24 base-sines are given in Table LXXXIX below.

(iii) The equations, however, which are based on these sine-values are practically the same as those of the *Siddhānta-Śirōmaṇi* (compare Table XLVII *above*, Vol. XIV, col. 9, and Table LXXXIX *below*). Tables LV, LVI, LIX (*above*, Vol. XV) may be therefore used as well for the *Brahma-Siddhānta* as for the *Siddhānta-Śirōmaṇi*.

(iv) The greatest equation of the sun's centre, that of 90°, is, in 10,000ths of the circle, 60·425925. The greatest equation of the moon's centre is, in similar measurement, 139·858101852. The sum of the two is 200·284027.

(v) The epoch of the Kaliyuga era was mean sunrise, taken as 6 A.M., on Friday, 18 February, B.C. 3102, that moment being 0<sup>h</sup> 0<sup>m</sup> 0<sup>s</sup> *Laṅkā* time. \* This was the moment of mean Mēsha-samkrānti, when the mean sun's centre reached long. 0°. True Mēsha-samkrānti, when the true sun's centre reached long. 0°, occurred on Tuesday, 15 February, B.C. 3102, at 19<sup>h</sup> 52<sup>m</sup> 21<sup>s</sup>·5 after mean sunrise at *Laṅkā*.

(vi) The circumference of the sun's epicycle is 13° 40', that of the moon 31° 46'. The epicycles are not contracted at any point. In this the *Siddhānta-Śirōmaṇi* concurs (*Jacobi*, Vol. I *above*, p. 441).

(vii) The line of apsides of the sun's orbit has a constant forward shift, the perigee-point (on the longitude of which my calculations are based) moving 0<sup>h</sup>·144 per ann., or 14<sup>m</sup>·4 in a century. According to the *Siddhānta-Śirōmaṇi* the movement is more rapid, amounting to 1<sup>h</sup>·044 per ann. (*Jacobi*, *op. cit.*).

(viii) The *śodhya*, or time-interval between true and mean Mēsha-samkrāntis, was, in A.Y. 0 or at the epoch of the Kaliyuga era, according to Dr. Schram,<sup>2</sup> 2<sup>d</sup> 171971 or 2<sup>d</sup> 4<sup>h</sup> 7<sup>m</sup> 38<sup>s</sup>·5. With this the *Siddhānta-Śirōmaṇi* agrees. But in later years the *śodhya*, as postulated by the two authorities, differs in value owing to the difference between the two *Siddhāntas* in their estimate of the movement of the sun's apsis. (*See vii above.*)

<sup>1</sup> Also by the *Indian Chronology* of Dewan Bahadur L. D. Swamikannu Pillai, M.A., whose Tables are framed on a different system.

<sup>2</sup> *Indian Chronography*, § 89 D, p. 16.

(ix) The position of the sun's apsis (perigee) at K.Y. 0, the epoch of the Kaliyuga, was  $257^{\circ} 45' 36''$ ,<sup>1</sup> and his mean anomaly was  $102^{\circ} 14' 24''$ , or, in 10,000ths of the circle, 284.0.

(x) The position of the moon's apsis (perigee) at the same moment was  $305^{\circ} 29' 46''$ <sup>2</sup>; and her mean anom. was  $54^{\circ} 30' 14''$ , or, in 1,000ths of circle, 151.399691358.

(xi) The sun's mean velocity (he is treated as a planet) and the length of the mean solar year being the same both by the *Brahma-Siddhānta* and the *Siddhānta-Śirōmaṇi*, his mean long. at any moment must be the same by both, and so also the length of the mean solar month. But the two authorities are not in exact accord as to his true long. and the length of the true solar month.

*Shift of sun's apsis. The śodhya. Length of true solar year.*

314. The length of the mean solar year being the same, viz.  $365^d 6^h 12^m 9^s$ , by both the *Brahma-Siddhānta* and the *Siddhānta-Śirōmaṇi*, the first portion of § 273 above (Vol. XV) and accompanying Table A apply as well to the former as to the latter. But for the latter portion that section and its Table B, the following must be substituted when dealing with the *Brahma-Siddhānta*, the two authorities not being in accord as concerns the matter in question.

315. As stated above, the sun's perigee-point according to the *Brahma-Siddhānta* advances annually  $0^{\circ} 14'$  along the ecliptic, and in consequence of this shift the true sun's velocity at long.  $0^{\circ}$  is a little greater every year than the year before, i.e. the true sun reaches long.  $0^{\circ}$ , or the moment of true Mēsha-samkrānti occurs, a little earlier each year. In every year there is a slight increase in the distance and time-difference (our *śodhya*) between the mean and true suns at that point of the orbit. Dr. Schram has carefully calculated the value of this *śodhya* at the moment of true Mēsha-samkrānti at the beginning of several millenniums, and his results for the period embraced in my general working Table LXXXII are stated in the following Table B.

TABLE B.

VALUE OF ŚODHYA BY THE BRAHMA-SIDDHĀNTA.

K.Y. year expired.	A.D.	EXACT VALUE OF ŚODHYA AT BEGINNING OF CENTURIES.		
		days and decimals.	d. h. m.	s.
3700	599-600	2.1729145	2 4 8	59.8128
3800	699-700	2.1729400	2 4 9	2.0160
3900	799-800	2.1729655	2 4 9	4.2192
4000	899-900	2.1729910	2 4 9	6.4224
4100	999-1000	2.1730165	2 4 9	8.6256
4200	1099-1100	2.1730420	2 4 9	10.8288
4300	1199-1200	2.1730675	2 4 9	13.0320

One result of this shift of apsis is that, by the *Brahma-Siddhānta*, the true sun reaches the  $0^{\circ}$  point of long.  $0^{\circ} 022032$  earlier every year than the year before, and in consequence the length of the true solar year, or the time needed for the true sun to travel from true Mēsha-samkrānti

<sup>1</sup> Jacobi, *above*, Vol. I, p. 442, § 83, where he gives the place of the apsis (apogee) as  $77^{\circ} 45' 36''$ . See also E. Burgess's "*Sūrya-Siddhānta*."

<sup>2</sup> Moon's apogee given by Jacobi as  $125^{\circ} 29' 46''$ .

in one year to true Mēsha-samkrānti in the next, is  $(365^d 6^h 12^m 9^s - 0^s.022032) 365^d 6^h 12^m 8^s.977968$ . [The exact moment of true Mēsha-samkrānti in each year from A.D. 599 to 1200 is given in the general Table LXXXII below, cols. 13-17. It can be tested by the use of Table A, § 273, referred to above, and Table B here given, using the "longer rule" stated in § 273 or in *Indian Chronography*, p. 61.]

Another result of the shift is that the sun's mean anomaly, or the mean sun's distance from the sun's perigee-point, decreases every year by  $0^s.144$  or  $14''.4$  in a century. Reckoning in 1,000ths of circle for valuation of our  $c$  (sun's mean anom.) in the Tables,  $14''.4 = 0.01$ . The value of  $c$  therefore decreases  $0.01$  in a century, and this decrease has to be taken into account from K.Y. 0, the epoch of the Kaliyuga. This has been done in the preparation of the Tables which follow.

*The increase of a, b, c, in centuries, years, days and fractions of days.*

316. Following on what has been stated, we learn that Tables LIVA and B, which deal with the periodical increases of  $a$ ,  $b$  and  $c$  according to the *Siddhānta-Sirōmaṇi*, may safely be used for calculation by the *Brahma-Siddhānta*, with the one reservation as to the increase of  $c$  in a century.  $a$  being the distance of mean moon from mean sun, and the *longitude* of the mean sun not being affected by the shift of apsis, but only his *mean anom.*, or distance from the point of the apsis, it appears that the rate of increase of  $a$  must be same by both authorities.

As to the rate of increase of  $c$  it is, by the *Siddhānta-Sirōmaṇi*, centennially less by  $0.0805$  (§ 273 above), and this was taken into account in the preparation of the heading of Table LIVA, where a footnote is appended shewing what the rate of increase would be per century if no such deduction had been made. This rate is, in thousandths of a circle,  $997.690008075$  in a century of 36525 days, and  $0.427795618$  in a century of 36526 days. By the *Brahma-Siddhānta*, the centennial decrease in the sun's mean anomaly being  $0.01$ , the amount of increase of  $c$  per century is, for a century of 36525 days,  $997.678896964$ , and for a century of 36526 days is  $0.416684507$ . The difference between the two authorities in shorter periods may be ignored except in some extraordinarily close case. If it is ever needed, the increase in  $c$  in one year may be reduced by  $0.0001$  from the Table quantity.

Otherwise Tables LIVA and B stand good for calculations by the *Brahma-Siddhānta*.

*The values of a, b, c at the beginning of K.Y. 3700.*

/ 317. The general Table LXXXII below begins from the beginning of K.Y. 3700 expired. Table LXXXVI states the value of  $a$ ,  $b$ ,  $c$  at that moment, and at the similar moment at the beginning of subsequent centuries. It is necessary therefore to explain how these figures were calculated.

(i) *The value of a (distance of mean moon from mean sun) in K.Y. 3700.* According to Hindu astronomers mean moon and mean sun were in conjunction at the moment of mean Mēsha-samkrānti in K.Y. 0, the epoch of the Kaliyuga; or, in other words, at that moment  $a = 0$ . In the 37 succeeding centuries there were 32 common and 5 defective centuries. Taking the century values of  $a$  given in the heading of Table LIVA and multiplying for 32 common and 5 defective centuries, we arrive at the figure  $6567.108945284$  as the value of  $a$  at the beginning of the 37th century K.Y., whole revolutions of 10,000 each being omitted. From this figure has to be deducted,—according to the working system of the *Indian Calendar*, which follows Largeteau and Jacobi,—the sum of the greatest equations of sun and moon, viz.  $200.284027$  (above § 313, iv). This gives us the value of  $a$  at the beginning of K.Y. 3700 (expired) as  $6366.824917506$ .<sup>1</sup>

<sup>1</sup> Professor Jacobi differs by about 17 units. He gives the figure  $6384.0$  (*Vol. XI above*, p. 167, Table IXA). I can give no explanation of the reason for this; and can only state fully, as in the text, my bases of calculation.

Now this value stands for mean sunrise of Sunday, 22 March, A.D. 599, i.e. for the sunrise succeeding the moment of occurrence of mean M'sha-samkrānti in K.Y. 3700; but in all my Tables the calculation is for mean sunrise on the actual day of that occurrence, and we have therefore to deduct one day's value of  $a$  (viz. 338·631985412—Table LIVA above) from the above estimate. This done, we have, for mean sunrise on Saturday,  $a = 6028·192932094$ .

(ii) *The value of  $b$  (moon's mean anom.) at the same moment.* At the epoch of the Kaliyuga the moon's mean anom. was, as stated above (§ 313,  $x$ ), in 1,000ths of a circle 151·399691358. Using the century figures of  $b$  in the heading of Table LIVA, and multiplying for 32 common and 5 defective centuries, it is found that, excluding whole revolutions of 1,000 each, the result is 604·144838202. Adding the value of  $b$  at K.Y. 0, as above, we have at beginning of K.Y. 3700, for the value of  $b$ , 755·544529560.<sup>1</sup> But this (see above,  $i$ ) was its value at mean sunrise on Sunday, 22 March, A.D. 599. Deducting one day's value of  $b$  (36·291649786) the fixture for mean sunrise on Saturday, 21 March, amounts to 719·252879774.

(iii) *The value of  $c$  (the sun's mean anom.) at the same moment.* The correct increase of  $c$  by the *Brahma-Siddhānta* in centuries of 36525 and 36526 days has been given above in the latter part of § 316. Multiplying those quantities for 32 common and 5 defective centuries, and discarding whole revolutions of 1,000 each, we arrive at the increase, after 37 centuries, of 1·728389044. To this has to be added the value of  $c$  at K.Y. 0 (above, § 313,  $ix$ ), viz. 284·0. The value of  $c$ , therefore, at mean sunrise of Sunday, 22 March, A.D. 599, was 285·728389044.<sup>2</sup> Deducting the  $c$  for one day (2·737787543) we have finally, for mean sunrise on Saturday, 21 March,  $c = 282·990601501$ .

The entries, therefore, for the aforesaid Saturday of K.Y. 3700 in Table LXXXVI below are

$$\begin{aligned} a &= 6028·1929 \\ b &= 719·2529 \\ c &= 282·9906. \end{aligned}$$

The rest of that Table follows by addition of the proper century values.

#### *Duration of true solar months.*

318. It has been mentioned above (§ 313,  $xi$ ) that, while the length of the mean solar month must be the same both by the *Brahma-Siddhānta* and the *Siddhānta-Sirōmaṇi*, the lengths of the true solar months according to the two authorities differ because of their different estimate of the shift of the sun's apsis. Thus in K.Y. 4000, the middle year of my general Table LXXXII below, the sun's perigee-point according to the *Siddhānta-Sirōmaṇi* was at long.  $258^{\circ} 55' 12''$ , while by the *Brahma-Siddhānta* it was at long.  $257^{\circ} 55' 12''$ . Hence the velocity of the true sun (he is always considered as a planet) at the several true solar *samkrāntis*, when the true sun's centre enters the several signs, is not the same by the two authorities quoted. And this has necessitated the preparation of a new Table (LXXXIII below), giving the lengths of the true solar months and increase of  $a$ ,  $b$ ,  $c$  therein individually and collectively according to the *Brahma-Siddhānta*.

There being in K.Y. 4000 a difference of only  $4' 48''$  between the positions of the sun's perigee, as estimated by the *Brahma-Siddhānta* and by the *First Arya-Siddhānta*, the former placing it at  $257^{\circ} 55' 12''$  and the latter at  $258^{\circ}$ , it was considered sufficiently safe to use Table XLIX (above, Vol. XIV) for the true sun's velocity at different points of his orbit in hours and minutes, and Table L-A for seconds. His true long. at each *samkrānti* was computed from his known mean longitude + the equation of the centre, which was calculated in each case.

<sup>1</sup> Professor Jacobi's figure for this is 758·1, in my notation, against my 755·5.

<sup>2</sup> This agrees with Professor Jacobi's fixture, which, measured from perigee and in my notation, is 285·7.

Thus was obtained the length of each month in days, hours, etc. For the increase of  $a$ ,  $b$ ,  $c$  during the periods so determined Tables LIVA and B, which are applicable to the *Brahma-Siddhānta* as well as to the *Siddhānta-Sirōmaṇi*, were used.

*Note on work for the nakshatra.*

319. In our method of work  $s$  = the true sun's longitude and  $t$  = the *tithi*-index (which shews the true moon's distance from the true sun) at the given moment.  $s + t$  = the *naksha-tra*-index  $n$ , which gives the true moon's place in the heavens, or her apparent longitude. The value of  $t$  is ascertained by the ordinary calculation for a date. The value of  $s$  has to be found.

By the *Ārya-Siddhānta* the formula for finding  $s$ ,  $c$  being the sun's mean anom. at the given moment, is  $s = (c \times 10) + 7226 - \text{eqn. } c$ ; where the factor 7226, which represents in 10,000ths of circle the long. of sun's perigee *plus* the sun's greatest equation, is a constant.<sup>1</sup>

By the *Sūrya-Siddhānta*, as exemplified in the *Indian Calendar Tables*, the numerical factor is not 7226, but varies in the period A.D. 900 to 1900 from 7206·5077 to 7207·4035 being fixed for rough work at 7207. The variation is due to the postulated shift of the sun's perigee-point.

By the *Siddhānta-Sirōmaṇi* there is, for the same reason, a variation in the numerical factor, *viz.* from 7252·6466 in A.D. 900 to 7259·0910; in A.D. 1700,—roughly from 7253 to 7259.

By the *Brahma-Siddhānta* the numerical factor varies from 7224·5370 in A.D. 600 to 7225·2037 in A.D. 1200 (the limits of the general Table LXXXII below). For rough work therefore by this authority the formula is  $s = (c \times 10) + 7225 - \text{eqn. } c$ .

For more accurate work the value of  $c$  should be calculated (by the Tables) with decimals, and instead of multiplying  $c$  by 10 its value should be changed from thousandths of circle (as in the Table-result) to ten thousandths by moving the decimal point one place to the right<sup>2</sup>; the value of eqn.  $c$  can be obtained from Table LVI with great accuracy; and the numerical factor can be taken from the following summary.

K.Y. century.	A.D. century.	Exact factor in formula.	Roughly.
3700	599-600	7224·5370	7225
3800	699-700	7224·6481	
3900	799-800	7224·7592	
4000	899-900	7224·8703	
4100	999-1000	7224·9814	
4200	1099-1100	7225·0925	
4300	1199-1200	7225·2037	

**Examples.**

It is not necessary to give a number of examples of work by the present Tables. The system of calculation being exactly the same as that of the *Indian Calendar* and throughout the present series of articles, the examples already published for computation by other authorities

<sup>1</sup> See *Indian Calendar*, § 156. p. 97; article on the *Siddhānta-Sirōmaṇi*, above, Vol. XV, § 273, "Note on work for the nakshatra"; article on the *First Ārya-Siddhānta*, Vol. XV above, § 302; and the several examples given in those papers.

<sup>2</sup> Whole revolutions are not necessary for present purposes, and in our system when  $a = 10,000$  a whole synodic revolution of the mean moon has been completed.

will suffice, *the proper Tables being used*, for work by the *Brahma-Siddhānta*. These Tables are specified in the following pages.

Examples have been given in all my foregoing papers, but perhaps the fullest series is to be found in the article on the *First Ārya-Siddhānta* (above, Vol. XVI).

*Tables for calculation by the Brahma-Siddhānta.*

The system of work for computation of an Indian date will be readily understood by perusal of examples 2 to 11 appended to my paper (above, Vol. XVI) on the *First Ārya-Siddhānta*; but the Tables used are of course not all the same. The following list shews how accurate results by the *Brahma-Siddhānta* are to be obtained in calculation by the movements of true sun and true moon.

Table LXXXII below is the general working Table for the *Brahma-Siddhānta* for the period A.D. 599 to 1200 (K.Y. 3700 to 4300 expired).

For names of months and of nakshatras in different parts of India, see Table LXII above (Vol. XVI, "*The First Ārya-Siddhānta*").

For collective duration of mean lunar months see Table LXIIIA of the same article, or Table III, Part I, *Indian Calendar*.

Table LXXXIIIA below gives, by the *Brahma-Siddhānta*, the length of the true solar months and their collective duration, with the corresponding increases of  $a$ ,  $b$ ,  $c$ .

Table LXXXIIIB states the exact value of  $c$  and of "equation  $c$ " at the several true *saṁkrāntis*, or moments of the true sun's centre reaching the several signs.

Table LXXXIIIC shews the value of  $c$  and of "equation  $c$ " at the beginning of each century of the Kaliyuga.

For the increase of  $a$ ,  $b$ ,  $c$  respectively in defective and common centuries, and in common years and Leap-years, see Table LIVA, heading; but note that by the *Brahma-Siddhānta* the increase of  $c$  in a defective century of 36525 days is 997.678896964 and in a common century of 36526 days is 0.416684507. Tables LIVA and B contain the necessary figures for days, hours, minutes and seconds.

Table LXXXIV gives the values of "equation  $b$ ," and Table LXXXV those of "equation  $c$ ," for easy calculation by whole numbers, corresponding respectively to Tables VI and VII of the "*Indian Calendar*," which stand for the *Sūrya-Siddhānta*.

For the more detailed values of "equation  $b$ " and "equation  $c$ " of moon and sun use Tables LV and LVI above, Vol. XV, as framed for the *Siddhānta-Śirōmaṇi*.

For the indices of *tithis* ( $t$ ), *karṇas*, *yōgas* ( $y$ ) and *nakshatras* ( $n$ ) see Table VIII, "*Indian Calendar*," or Table LXVIII (above, Vol. XVI, "*The First Ārya-Siddhānta*").

For serial numbers of days of a year reckoned from January 1st use Table IX, "*Indian Calendar*," or Table LXIX (above, Vol. XVI, "*The First Ārya-Siddhānta*").

For conversion of *tithi*-indices and *tithi*-parts into time Table X, "*Indian Calendar*," is to be used, or Table LXX (above, Vol. XVI, "*The First Ārya-Siddhānta*").

For finding the week-day according to the European Calendar for any century from A.D. 0 to 2300 see Table LXXI (above, Vol. XIV, "*The First Ārya-Siddhānta*"), or Tables XLIA and B (pp. 176, 177, "*Indian Chronography*").

Table LXXXVI gives the values of  $a$ ,  $b$ ,  $c$  at the beginning of each century of the Kaliyuga by the *Brahma-Siddhānta*.

Table LXXXVII gives the same for odd years of those centuries.

Table LXXXVIII states the daily sunrise values of  $a$ ,  $b$ ,  $c$  for a month previous to the day of Mēsha-saṁkrānti.

Table LXXXIX sets forth the 24 base-sines of angles of the quadrant according to Brahmagupta, and the corresponding equations of the sun's centre.

## TABLE LXXXII.

## CONSTRUCTION OF TABLE.

The Table is constructed on the lines of Table I of the *Indian Calendar* and is to be used in the same way. The columns are numbered similarly.

Col. 7. The *saṃvatsara*-name,—i.e. the name of the Jovian cycle—, of the year is given as determined by my previous calculations (*above*, Vol. XIII Table XLII). Entries in italics point to cases where this *saṃvatsara*-name differs from that given to the same year by *Sūrya-Siddhānta* reckoning.

Col. 8. Months noted in roman characters are intercalated (*adhika*) lunar months. Those in italics are suppressed (*kshaya*) months.

Cols. 13, 19. Figures in brackets give the serial number of the day [measured from January 1st.

Col. 23.  $a$ =distance, at mean sunrise, of mean moon from mean sun, or phase of moon stated in 10,000ths of circle, and reduced by the sum of the greatest equations of sun and moon so that calculation of the equations of  $b$  and  $c$  may always be additive.

Col. 24.  $b$ =mean anomaly of moon or mean moon's distance from perigee-point of apsis stated in 1,000ths of circle.

Col. 25.  $c$ =mean anomaly of sun or mean sun's distance from perigee, stated in 1,000ths of circle.

## REMARKS.

A.D. 629-630, cols. 19, 20. A very close case. The moment of true new moon was less than half a minute after mean sunrise at Laṅkā on Wednesday, 1st March. And the first *śukla tithi* of the year ended after mean sunrise on Thursday, 2nd March, which was therefore by rule the first civil day of the luni-solar year. If new moon had taken place more than half a minute earlier the first civil day of the year, "Chaitra śukla 1," would have been 1st March.

A.D. 968-69, col. 8. At the Kumbha *saṃkrānti* the true moon was waning. The moment of the next, the Mīna, *saṃkrānti* occurred about  $2\frac{1}{2}$  minutes after the moment of true new moon, so that the true moon was waxing at the Mīna *saṃkrānti*. Hence the lunar month Phālguna was intercalated. According to the 19-year sequence we should have expected an intercalation of the lunar month Chaitra next following. The sequence shows similar irregularities when examined by other authorities, but only very rarely.

A.D. 974-75, cols. 19, 20. Close case. The 1st true new moon after the Mīna *saṃkrānti* occurred 3 minutes before mean sunrise at Laṅkā on 25th February A.D. 974. That therefore was the day "Chaitra śukla 1."

A.D. 963-64, 982-83, col. 8. In both these years an intercalation of the lunar month Śrāvaṇa instead of Āshāḍha would have been more in accordance with the 19-year sequence, seeing that Śrāvaṇa was the intercalated month in A.D. 1001 and 1020; but prior to A.D. 963 at intervals of 19 years there had been eight intercalations of Śrāvaṇa, and toward the close of such a run a change of conditions generally becomes apparent.

A.D. 1001-2, 1020-21, col. 8. See the previous note. If in these two years the conditions had made necessary an intercalation of Āshāḍha, the 19-year sequence would have been uninterrupted.

A.D. 1128-29, col. 8. By the *Brahma-Siddhānta* the intercalation of Phālguna was clearly demanded. See Remarks preceding Table LX (*above*, Vol. XV), on the same year as worked by the *Siddhānta-Śirōmaṇi*.



TABLE

## GENERAL TABLE FOR CALCULATION

Conforming to Table I " Indian Calendar "

(See notes on

CONCURRENT YEAR.								Intercalated ( <i>adhika</i> ) and suppressed ( <i>kshaya</i> ) true lunar months.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
3701	522	657	6		599-600	50 Anala . . .		...
3702	523	658	7		*600-01	51 Piṅgala . . .		3 Jyēshṭha .
3703	524	659	8		601-02	52 Kālayukta. . .		...
3704	525	660	9		602-03	53 Siddhārthin . .	{ 7 Āsvina 11 Māgha ( <i>ksh.</i> ) }	
3705	526	661	10		603-04	54 Raudra . . .		1 Chaitra .
3706	527	662	11		*604-05	55 Durmati . . .		...
3707	528	663	12		605-06	56 Dundubhi . . .		5 Śrāvaṇa .
3708	529	664	13		606-07	57 Rudhirōdgārin . .		...
3709	530	665	14		607-08	58 Raktāksha . . .		...
3710	531	666	15		*608-09	59 Krōdhana . . .		4 Āshāḍha .
3711	532	667	16		609-10	60 Kshaya . . .		...
3712	533	668	17		610-11	1 Prabhava . . .		...
3713	534	669	18		611-12	2 Vibhava . . .		2 Vaiśākha .
3714	535	670	19		*612-13	3 Śukla . . .		...
3715	536	671	20		613-14	5 Pramōda . . .		6 Bhādrapada
3716	537	672	21		614-15	6 Prajāpati . . .		...
3717	538	673	22		615-16	6 Aṅgīrasa . . .		...
3718	539	674	23		*616-17	7 Śrīmukha . . .		4 Āshāḍha .
3719	540	675	24		617-18	8 Bhāva . . .		...
3720	541	676	25		618-19	9 Yuvan . . .		...
3721	542	677	26		619-20	10 Dhātṛi . . .		3 Jyēshṭha .
3722	543	678	27		*620-21	11 Īśvara . . .		...

## LXXXII.

BY THE BRAHMA-SIDDHANTA.

*the columns being similarly numbered.**preceding page.)*

COMMENCEMENT OF THE								
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).					Kali.
Day and month A. D.	Week-day.	Time of true Mōsha-samkrānti.	Day and month A. D.	Week-day.	a	b	c	
13	14	17	19	20	23	24	25	1
		H. M. S.						
19 Mar. (78)	5 Thur.	1 6 0	3 Mar. (62)	3 Tues.	9932-8171	60-0032	233-7104	3701
18 Mar. (78)	6 Fri.	7 18 9	21 Feb. (52)	1 Sun.	147-1720	949-5390	205-6250	3702
18 Mar. (77)	0 Sat.	13 30 18	11 Mar. (70)	0 Sat.	181-8544	885-5324	256-9354	3703
18 Mar. (77)	1 Sun.	19 42 27	28 Feb. (59)	4 Wed.	57-5772	732-7766	226-1121	3704
19 Mar. (78)	3 Tues.	1 54 36	18 Feb. (49)	2 Mon.	271-9320	616-3122	203-5023	3705
18 Mar. (78)	4 Wed.	8 6 45	7 Mar. (67)	0 Sat.	9967-9825	516-0140	246-5994	3706
18 Mar. (77)	5 Thur.	14 18 54	24 Feb. (55)	4 Wed.	9843-7052	363-2681	215-7762	3707
18 Mar. (77)	6 Fri.	20 31 3	15 Mar. (74)	3 Tues.	9878-3876	290-1516	267-0865	3708
19 Mar. (78)	1 Sun.	2 43 12	4 Mar. (63)	0 Sat.	9754-1105	146-4956	236-2624	3709
18 Mar. (78)	2 Mon.	8 55 21	22 Feb. (53)	5 Thur.	9968-4653	30-0312	208-1780	3710
18 Mar. (77)	3 Tues.	15 7 30	12 Mar. (71)	4 Wed.	3-1477	966-0247	259-4884	3711
18 Mar. (77)	4 Wed.	21 19 39	2 Mar. (61)	2 Mon.	217-5025	849-5604	231-4029	3712
19 Mar. (78)	6 Fri.	3 31 48	19 Feb. (50)	6 Fri.	93-2254	696-8045	200-5797	3713
18 Mar. (78)	0 Sat.	9 43 57	9 Mar. (69)	5 Thur.	127-9077	632-7980	251-8902	3714
18 Mar. (77)	1 Sun.	15 56 6	26 Feb. (57)	2 Mon.	3-0306	480-0421	221-0609	3715
18 Mar. (77)	2 Mon.	22 8 15	16 Mar. (75)	0 Sat.	9999-6810	379-7440	269-6395	3716
19 Mar. (78)	4 Wed.	4 20 24	6 Mar. (65)	5 Thus.	9914-0358	263-2795	241-5542	3717
18 Mar. (78)	5 Thur.	10 32 33	23 Feb. (54)	2 Mon.	9789-7587	110-5236	210-7310	3718
18 Mar. (77)	6 Fri.	16 44 42	13 Mar. (72)	1 Sun.	9824-4420	46-5171	262-0414	3719
18 Mar. (77)	0 Sat.	22 56 51	3 Mar. (62)	6 Fri.	38-7959	930-0528	233-9559	3720
19 Mar. (78)	2 Mon.	5 9 0	21 Feb. (52)	4 Wed.	253-1507	813-5885	205-8705	3721
18 Mar. (78)	3 Tues.	11 21 9	11 Mar. (71)	3 Tues.	287-8331	749-5820	257-1810	3722

TABLE

CONCURRENT YEAR.								Intercalated (adhika) and suppressed (kshaya) true lunar months.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
3723	544	679	28		621-22	12 Bahudhānya . . .		7 Āśvina . .
3724	545	680	29		622-23	13 Pramāthin . . .		...
3725	546	681	30		623-24	14 Vikrama . . .		...
3726	547	682	31		*624-25	15 Vrisha . . .		5 Śrāvaṇa .
3727	548	683	32		625-26	16 Chitrabhānu . . .		...
3728	549	684	33		626-27	17 Subhānu . . .		...
3729	550	685	34		627-28	18 Tārana . . .		4 Āshāḍha .
3730	551	686	35		*628-29	19 Pārthiva . . .		...
3731	552	687	36		629-30	20 Vyaya . . .		...
3732	553	688	37		630-31	21 Sarvajit . . .		2 Vaiśākha .
3733	554	689	38		631-32	22 Sarvadhārin . . .		...
3734	555	690	39		*632-33	23 Virōdhin . . .		6 Bhādrapada
3735	556	691	40		633-34	24 Vikṛita . . .		...
3736	557	692	41		634-35	25 Khara . . .		...
3737	558	693	42		635-36	26 Nandana . . .		4 Āshāḍha .
3738	559	694	43		*636-37	27 Vijaya . . .		...
3739	560	695	44		637-38	28 Jaya . . .		...
3740	561	696	45		638-39	29 Manmatha . . .		3 Jyēshtha .
3741	562	697	46		639-40	30 Durmukha . . .		...
3742	563	698	47		*640-41	31 Hōmalamba . . .		7 Āśvina .
3743	564	699	48		641-42	32 Vilamba . . .		...
3744	565	700	49		642-43	33 Vikārin . . .		...
3745	566	701	50		643-44	34 Śārvarin . . .		5 Śrāvaṇa .
3746	567	702	51		*644-45	35 Plava . . .		...
3747	568	703	52		645-46	36 Śubhakrit . . .		...

LXXXII—Contd.

COMMENCEMENT OF THE								
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).					Kali.
Day and month A.D.	Week-day.	Time of true Mēsha-samkrānti.	Day and month A. D.	Week-day.	a	b	c	
13	14	17	19	20	23	24	25	1
		H. M. S.						
18 Mar. (77)	4 Wed.	17 33 18	28 Feb. (59)	0 Sat.	163-5560	596-8261	226-3577	3723
18 Mar. (77)	5 Thur.	23 45 27	18 Mar. (77)	5 Thur.	9859-6063	496-5279	274-9303	3724
19 Mar. (78)	0 Sat.	5 57 36	8 Mar. (67)	3 Tues.	73-9612	380-0635	246-8449	3725
18 Mar. (78)	1 Sun.	12 9 45	25 Feb. (56)	0 Sat.	9949-6840	227-3076	216-0218	3726
18 Mar. (77)	2 Mon.	18 21 54	15 Mar. (74)	0 Fri.	9984-3664	163-3011	267-3321	3727
19 Mar. (78)	4 Wed.	0 34 3	4 Mar. (63)	3 Tues.	9860-0892	10-5451	236-5089	3728
19 Mar. (78)	5 Thur.	6 46 12	22 Feb. (53)	1 Sun.	74-4441	894-0800	208-4235	3729
18 Mar. (78)	6 Fri.	12 58 21	12 Mar. (72)	0 Sat.	109-1265	830-0742	259-7340	3730
18 Mar. (77)	0 Sat.	19 10 30	2 Mar. (61)	5 Thur.††	323-4813	713-6100	231-6485	3731
19 Mar. (78)	2 Mon.	1 22 39	19 Feb. (50)	2 Mon.	199-2041	560-8540	200-8252	3732
19 Mar. (78)	3 Tues.	7 34 47	9 Mar. (68)	0 Sat.	9895-2545	461-5558	249-3979	3733
18 Mar. (78)	4 Wed.	13 46 56	26 Feb. (57)	4 Wed.	9770-9774	307-7999	218-5748	3734
18 Mar. (77)	5 Thur.	19 59 5	16 Mar. (75)	3 Tues.	9805-6597	243-7934	269-8851	3735
19 Mar. (78)	0 Sat.	2 11 14	6 Mar. (65)	1 Sun.	20-0146	127-3290	241-0922	3736
19 Mar. (78)	1 Sun.	8 23 23	23 Feb. (54)	5 Thur.	9895-7375	974-5731	210-9765	3737
18 Mar. (78)	2 Mon.	14 35 32	13 Mar. (73)	4 Wed.	9930-4199	910-5666	262-2870	3738
18 Mar. (77)	3 Tues.	20 47 41	3 Mar. (62)	2 Mon.	144-7746	794-1023	234-2015	3739
19 Mar. (78)	5 Thur.	2 59 50	20 Feb. (51)	6 Fri.	20-4975	641-3463	203-3783	3740
19 Mar. (78)	6 Fri.	9 11 59	11 Mar. (70)	5 Thur.	55-1799	577-3398	254-6887	3741
18 Mar. (78)	0 Sat.	15 24 8	28 Feb. (59)	2 Mon.	9930-0027	424-5838	223-8655	3742
18 Mar. (77)	1 Sun.	21 36 17	18 Mar. (77)	1 Sun.	9965-5851	360-5774	275-1759	3743
19 Mar. (78)	3 Tues.	3 48 26	7 Mar. (66)	5 Thur.	9841-3081	207-8213	244-3527	3744
19 Mar. (78)	4 Wed.	10 0 35	25 Feb. (56)	3 Tues.	55-6628	91-3571	216-2673	3745
18 Mar. (78)	5 Thur.	16 12 44	15 Mar. (75)	2 Mon.	90-3451	27-3506	267-5776	3746
18 Mar. (77)	6 Fri.	22 24 53	4 Mar. (63)	6 Fri.	9966-0680	873-8747	236-7545	3747

†† See "Remarks," above, on page preceding the Table.

TABLE

CONCURRENT YEAR.								Intercalated ( <i>adhika</i> ) and suppressed ( <i>kshaya</i> ) true lunar months.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
3748	569	704	53		646-47	37 Śōbhana . . .		4 Āshāḍha .
3749	570	705	54		647-48	38 Kr̥ṣḍhin . . .		...
3750	571	706	55		*648-49	39 Viśvāvasu† . . .		...
3751	572	707	56		649-50	41 <i>Plavāṅga</i> . . .		2 Vaiśākha .
3752	573	708	57		650-51	42 <i>Kīlaka</i> . . .		...
3753	574	709	58		651-52	43 <i>Saumya</i> . . .		6 Bhādrapada.
3754	575	710	59		*352-53	44 <i>Sādhāraṇa</i> . . .		...
3755	576	711	60		653-54	45 <i>Virōdhakṛit</i> . . .		...
3756	577	712	61		654-55	46 Paridhāvin . . .		4 Āshāḍha .
3757	578	713	62		655-56	47 Pramādin . . .		...
3758	579	714	63		*656-57	48 Ānanda . . .		...
3759	580	715	64		657-58	49 Rākshasa . . .		3 Jyēsthā .
3760	581	716	65		658-59	50 Anala . . .		...
3761	582	717	66		659-60	51 Piṅgala . . .		7 Āvina .
3762	583	718	67		*660-61	52 Kālayukta . . .		...
3763	584	719	68		661-62	53 Siddhārthin . . .		...
3764	585	720	69		662-63	54 Raudra . . .		5 Śrāvaṇa .
3765	586	721	70		663-64	55 Durmati . . .		...
3766	587	722	71		*664-65	56 Dundubhi . . .		...
3767	588	723	72		665-66	57 Rudhīrōdgārin . . .		4 Āshāḍha
3768	589	724	73		666-67	58 Raktāksha . . .		...
3769	590	725	74		667-68	59 Krōdhana . . .		...
3770	591	726	75		*668-69	60 Kshaya . . .		1 Chaitra
3771	592	727	76		669-70	1 Prabhava . . .		...
3772	593	728	77		670-71	2 Vibhava . . .		5 Śrāvaṇa .

† 40 Parābhava was suppressed.

LXXXII—Contd.

COMMENCEMENT OF THE								
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).					Kali.
Day and month A. D.	Week-day.	Time of true Mēsha-saṁkrānti.	Day and month A. D.	Week-day.	a	b	c	
13	14	17	19	20	23	24	25	
		H. M. S.						1
19 Mar. (78)	1 Sun. .	4 37 2	22 Feb. (53)	4 Wed.	180-4229	758-1223	208-6691	3748
19 Mar. (78)	2 Mon.	10 49 11	13 Mar. (72)	3 Tues.	215-1052	694-1237	259-9795	3749
18 Mar. (78)	3 Tues.	17 1 20	1 Mar. (61)	0 Sat. .	90-8281	541-3679	229-1662	3750
18 Mar. (77)	4 Wed.	23 13 29	18 Feb. (49)	4 Wed.	9966-5509	388-6119	198-3330	3751
19 Mar. (78)	6 Fri. .	5 25 38	9 Mar. (68)	3 Tues.	1-2333	324-6053	249-6435	3752
19 Mar. (78)	0 Sat. .	11 37 47	26 Feb. (57)	0 Sat. .	9876-9561	171-8494	218-8203	3753
18 Mar. (78)	1 Sun. .	17 49 56	16 Mar. (76)	6 Fri. .	9911-6385	107-8429	270-1306	3754
19 Mar. (78)	3 Tues.	0 2 5	6 Mar. (65)	4 Wed.	125-9934	991-3786	242-0453	3755
19 Mar. (78)	4 Wed.	6 14 14	23 Feb. (54)	1 Sun. .	1-7162	838-6227	211-2221	3756
19 Mar. (78)	5 Thur.	12 26 23	14 Mar. (73)	0 Sat. .	36-3986	774-6161	262-5325	3757
18 Mar. (78)	6 Fri. .	18 38 32	3 Mar. (63)	5 Thur.	250-7534	658-1518	234-4470	3758
19 Mar. (78)	1 Sun.	0 50 41	20 Feb. (51)	2 Mon.	126-5803	505-3958	203-6238	3759
19 Mar. (78)	2 Mon. .	7 2 50	10 Mar. (69)	0 Sat. .	9822-5266	405-0977	262-1965	3760
19 Mar. (78)	3 Tues. .	13 14 59	28 Feb. (59)	5 Thur.	36-8815	288-6334	224-1110	3761
18 Mar. (78)	4 Wed.	19 27 8	17 Mar. (77)	3 Tues.	9732-9319	188-3353	272-6836	3762
19 Mar. (78)	6 Fri. .	1 39 17	7 Mar. (66)	1 Sun. .	9947-2867	71-8709	244-5982	3763
19 Mar. (78)	0 Sat. .	7 51 26	25 Feb. (56)	6 Fri. .	161-6415	955-4066	216-5129	3764
19 Mar. (78)	1 Sun. .	14 3 35	16 Mar. (75)	5 Thur.	196-2239	891-4001	267-8232	3765
18 Mar. (78)	2 Mon.	20 15 44	4 Mar. (64)	2 Mon.	72-0468	738-6441	237-0000	3766
19 Mar. (78)	4 Wed. .	2 27 53	21 Feb. (52)	6 Fri. .	9947-7696	585-8882	206-1768	3767
19 Mar. (78)	5 Thur.	8 40 2	12 Mar. (71)	5 Thur.	9982-6410	521-8817	257-4873	3768
19 Mar. (78)	6 Fri. .	14 52 11	1 Mar. (60)	2 Mon.	9858-1749	369-1257	226-6640	3769
18 Mar. (78)	0 Sat. .	21 4 20	18 Feb. (49)	6 Fri. .	9733-8977	216-3699	195-8407	3770
19 Mar. (78)	2 Mon.	3 16 29	8 Mar. (67)	5 Thur.	9768-5801	152-5632	247-1512	3771
19 Mar. (78)	3 Tues.	9 28 38	26 Feb. (57)	3 Tues.	9982-9349	35-8889	219-0659	3772

TABLE

CONCURRENT YEAR.								Intercalated ( <i>adhika</i> and suppressed ( <i>kshaya</i> ) true lunar months.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
3773	594	729	78		671-72	3 Śukla . . . .		...
3774	595	730	79		*672-73	4 Pramōda . . . .		...
3775	596	731	80		673-74	5 Prajāpati . . . .		4 Āshāḍha .
3776	597	732	81		674-75	6 Aṅgīrasa . . . .		...
3777	598	733	82		675-76	7 Śrīmukha . . . .		...
3778	599	734	83		*676-77	8 Bhāva . . . .		2 Vaiśākha .
3779	600	735	84		677-78	9 Yuvan . . . .		...
3780	601	736	85		678-79	10 Dhātṛi . . . .		7 Āśvina .
3781	602	737	86		679-80	11 Īśvara . . . .		...
3782	603	738	87		*680-81	12 Bahudhānya . . . .		...
3783	604	739	88		681-82	13 Pramāthin . . . .		5 Śrāvaṇa .
3784	605	740	89		682-83	14 Vikrama . . . .		...
3785	606	741	90		683-84	15 Vṛisha . . . .		...
3786	607	742	91		*684-85	16 Chitrabhānu . . . .		3 Jyēṣṭha .
3787	608	743	92		685-86	17 Subhānu . . . .		...
3788	609	744	93		686-87	18 Tāraṇa . . . .		...
3789	610	745	94		687-88	19 Pārthiva . . . .		1 Chaitra .
3790	611	746	95		*688-89	20 Vijaya . . . .		...
3791	612	747	96		689-90	21 Sarvajit . . . .		5 Śrāvaṇa .
3792	613	748	97		690-91	22 Sarvadhārin . . . .		...
3793	614	749	98		691-92	23 Virōdhin . . . .		...
3794	615	750	99		*692-93	24 Vikṛta . . . .		4 Āshāḍha .
3795	616	751	100		693-94	25 Khara . . . .		...
3796	617	752	101		694-95	26 Nandana . . . .		...
3797	618	753	102		695-96	27 Vijaya . . . .		2 Vaiśākha .

LXXXH—Contd.

COMMENCEMENT OF THE								
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).					Kali.
Day and month A. D.	Week-day.	Time of true Mēsha-saṁkrānti.	Day and month A. D.	Week-day.	a	b	c	
13	14	17	19	20	23	24	25	1
		H. M. S.						
19 Mar. (78)	4 Wed.	15 40 47	17 Mar. (76)	2 Mon.	17-6173	971-8924	270-3762	3773
18 Mar. (78)	5 Thur.	21 52 56	6 Mar. (66)	0 Sat.	231-9621	855-4281	242-2907	3774
19 Mar. (78)	0 Sat.	4 5 5	23 Feb. (54)	4 Wed.	107-6950	702-6722	211-4676	3775
19 Mar. (78)	1 Sun.	10 17 14	14 Mar. (73)	3 Tues.	142-3774	628-6656	262-7781	3776
19 Mar. (78)	2 Mon.	16 29 23	3 Mar. (62)	0 Sat.	18-1001	485-9097	231-9548	3777
18 Mar. (78)	3 Tues.	22 41 31	20 Feb. (51)	4 Wed.	9893-8230	333-1537	201-1315	3778
19 Mar. (78)	5 Thur.	4 53 40	10 Mar. (69)	3 Tues.	9928-5054	269-1472	252-4420	3779
19 Mar. (78)	6 Fri.	11 5 49	27 Feb. (58)	0 Sat.	9804-2283	116-3913	221-6188	3780
19 Mar. (78)	0 Sat.	17 17 58	18 Mar. (77)	6 Fri.	9838-9106	52-4848	272-9202	3781
18 Mar. (78)	1 Sun.	23 30 7	7 Mar. (67)	4 Wed.	53-2655	935-9205	244-8437	3782
19 Mar. (78)	3 Tues.	5 42 16	25 Feb. (56)	2 Mon.	267-6203	819-4561	216-7584	3783
19 Mar. (78)	4 Wed.	11 54 25	16 Mar. (75)	1 Sun.	302-3027	755-4406	268-0688	3784
19 Mar. (78)	5 Thur.	18 6 34	5 Mar. (64)	5 Thur.	178-0255	602-6936	237-5456	3785
19 Mar. (79)	0 Sat.	0 18 43	22 Feb. (53)	2 Mon.	53-7384	440-9378	206-4223	3786
19 Mar. (78)	1 Sun.	6 30 52	12 Mar. (71)	1 Sun.	88-4308	385-9312	257-7328	3787
19 Mar. (78)	2 Mon.	12 43 1	1 Mar. (60)	5 Thur.	9964-1536	233-1752	227-1096	3788
19 Mar. (78)	3 Tues.	18 55 10	18 Feb. (49)	2 Mon.	9839-8765	80-4194	196-0863	3789
19 Mar. (79)	5 Thur.	1 7 19	8 Mar. (68)	1 Sun.	9874-5589	16-4127	247-3967	3790
19 Mar. (78)	6 Fri.	7 19 28	26 Feb. (57)	6 Fri.	88-9137	899-9484	219-3114	3791
19 Mar. (78)	0 Sat.	13 31 37	17 Mar. (76)	5 Thur.	123-5960	835-9419	270-6218	3792
19 Mar. (78)	1 Sun.	19 43 46	6 Mar. (65)	2 Mon.	9999-3189	683-1860	239-7986	3793
19 Mar. (79)	3 Tues.	1 55 55	24 Feb. (55)	0 Sat.	213-6738	566-7217	211-7131	3794
19 Mar. (78)	4 Wed.	8 8 4	13 Mar. (72)	5 Thur.	9909-7241	466-4235	260-1858	3795
19 Mar. (78)	5 Thur.	14 20 13	2 Mar. (61)	2 Mon.	9785-4470	313-6675	229-4626	3796
19 Mar. (78)	6 Fri.	20 32 22	20 Feb. (51)	0 Sat.	9999-8018	197-2632	201-3771	3797



TABLE

CONCURRENT YEAR.								Intercalated ( <i>adhika</i> ) and suppressed ( <i>kshaya</i> ) true lunar months.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A. D.	JOVIAN SĀMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
3798	619	754	103		*696-97	28 Jaya . . . .		...
3799	620	755	104		697-98	29 Manmatha . . . .		6 Bhādrapada
3800	621	756	105		698-99	30 Durmukha . . . .		...
3801	622	757	106		699-700	31 Hēmalamba . . . .		...
3802	623	758	107		*700-70	32 Vilamba . . . .		5 Śrāvāṇa .
3803	624	759	108		701-02	33 Vikārin . . . .		...
3804	625	760	109		702-03	34 Śārvarin . . . .		...
3805	626	761	110		703-04	35 Plava . . . .		3 Jyēṣṭha .
3806	627	762	111		*704-05	36 Śubhakrit . . . .		...
3807	628	763	112		705-06	37 Sōbhana . . . .		...
3808	629	764	113		706-07	38 Krōdhin . . . .		1 Chaitra .
3809	630	765	114		707-08	39 Viśvāvasu . . . .		...
3810	631	766	115		*708-09	40 Parābhava . . . .		5 Śrāvāṇa .
3811	632	767	116		709-10	41 Plavaṅga . . . .		...
3812	633	768	117		710-11	42 Kilaka . . . .		...
3813	634	769	118		711-12	43 Saumya . . . .		4 Āshāḍha .
3814	635	770	119		*712-13	44 Sādhāraṇa . . . .		...
3815	636	771	120		713-14	45 Virōdhakrit . . . .		...
3816	637	772	121		714-15	46 Paridhāvin . . . .		2 Vaiśākha .
3817	638	773	122		715-16	47 Pramādin . . . .		...
3818	639	774	123		*716-17	48 Ānanda . . . .		6 Bhādrapada
3819	640	775	124		717-18	49 Rākshasa . . . .		...
3820	641	776	125		718-19	50 Anala . . . .		...
3821	642	777	126		719-20	51 Piṅgala . . . .		5 Śrāvāṇa .
3822	643	778	127		*720-21	52 Kālayukta . . . .		...

LXXXII—Contd.

COMMENCEMENT OF THE								
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).					Kali.
Day and month A. D.	Week-day.	Time of true Mēsha-sam-krānti.	Day and month A. D.	Week-day.	a	b	c	
13	14	17	19	20	23	24	25	
		H. M. S.						1
19 Mar. (79)	1 Sun.	2 44 31	10 Mar. (70)	6 Fri.	34-4841	133-1067	252-6875	3798
19 Mar. (78)	2 Mon.	8 56 40	27 Feb. (58)	3 Tues.	0910-2070	980-4408	221-8643	3799
19 Mar. (78)	3 Tues.	15 8 49	18 Mar. (77)	2 Mon.	9944-8894	916-4343	273-1748	3800
19 Mar. (78)	4 Wed.	21 20 58	8 Mar. (67)	0 Sat.	159-2443	799-9700	245-0671	3801
19 Mar. (79)	6 Fri.	3 33 7	25 Feb. (56)	4 Wed.	34-9671	647-2140	214-2440	3802
19 Mar. (78)	0 Sat.	9 45 16	15 Mar. (74)	3 Tues.	69-6496	583-2074	265-5543	3803
19 Mar. (78)	1 Sun.	15 57 25	4 Mar. (63)	0 Sat.	9945-3723	430-4516	234-7311	3804
19 Mar. (78)	2 Mon.	22 9 34	21 Feb. (52)	4 Wed.	9821-0852	277-6956	203-9079	3805
19 Mar. (79)	4 Wed.	4 21 43	11 Mar. (71)	3 Tues.	9855-7776	213-6890	255-2184	3806
19 Mar. (78)	5 Thur.	10 33 52	1 Mar. (60)	1 Sun.	70-1324	97-2248	227-1329	3807
19 Mar. (78)	6 Fri.	16 46 1	18 Feb. (49)	5 Thur.	9946-0956	944-4986	196-3096	3808
19 Mar. (78)	0 Sat.	22 58 10	9 Mar. (68)	4 Wed.	9980-5376	880-4623	247-6201	3809
19 Mar. (79)	2 Mon.	5 10 19	27 Feb. (58)	2 Mon.	194-8924	773-9979	219-5348	3810
19 Mar. (78)	3 Tues.	11 22 28	17 Mar. (76)	1 Sun.	230-5748	699-0914	270-8451	3811
19 Mar. (78)	4 Wed.	17 34 37	6 Mar. (65)	5 Thur.	105-2977	547-2355	240-0210	3812
19 Mar. (78)	5 Thur.	23 46 46	23 Feb. (54)	2 Mon.	9981-0206	394-4796	209-1987	3813
19 Mar. (79)	0 Sat.	5 58 55	13 Mar. (73)	1 Sun.	15-7029	330-4730	260-5092	3814
19 Mar. (78)	1 Sun.	12 11 4	2 Mar. (61)	5 Thur.	9891-4258	178-7171	229-6859	3815
19 Mar. (78)	2 Mon.	18 23 13	20 Feb. (51)	3 Tues.	105-7806	61-2528	201-6004	3816
20 Mar. (79)	4 Wed.	0 35 22	11 Mar. (70)	2 Mon.	140-4629	997-2402	252-9100	3817
19 Mar. (79)	5 Thur.	6 47 31	28 Feb. (59)	6 Fri.	16-1858	844-4903	222-0877	3818
19 Mar. (78)	6 Fri.	12 59 40	18 Mar. (77)	5 Thur.	50-8682	780-4838	273-3981	3819
19 Mar. (78)	0 Sat.	19 11 49	8 Mar. (67)	3 Tues.	265-2231	664-0195	245-3126	3820
20 Mar. (79)	2 Mon.	1 23 58	25 Feb. (56)	0 Sat.	140-9458	511-2635	214-4895	3821
19 Mar. (79)	3 Tues.	7 36 7	14 Mar. (74)	5 Thur.	9836-9963	410-9654	263-0622	3822

TABLE

CONCURRENT YEAR.							Intercalated ( <i>adhika</i> ) and suppressed ( <i>k-haya</i> ) true lunar months.	
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A. D.	JOVIAN SĀMVATSARA.		
						Southern system.		Northern system.
1	2	3	3a	4	5	6	7	8
3823	644	779	128		721-22	53 Siddhārthin . . .		...
3824	645	780	129		722-23	54 Raudra . . .		3 Jyēshtha
3825	646	781	130		723-24	55 Durmati . . .		...
3826	647	782	131		*724-25	56 Dundubhi . . .	{ 7 Āsvina 9 Mārgaś : ( <i>keś</i> ) }	
3827	648	783	132		725-26	57 Rudhirōdgārin . . .		1 Chaitra .
3828	649	784	133		726-27	58 Raktāksha . . .		...
3829	650	785	134		727-28	59 Krōdhana . . .		5 Śrāvana .
3830	651	786	135		*728-29	60 Keshaya . . .		...
3831	652	787	136		729-30	1 Prabhava . . .		...
3832	653	788	137		730-31	2 Vibhava . . .		4 Āshāḍha
3833	654	789	138		731-32	3 Śukla . . .		...
3834	655	790	139		*732-33	4 Pramōda . . .		...
3835	656	791	140		733-34	5 Prajāpati . . .		2 Vaiśākha .
3836	657	792	141		734-35	6 Angirasa† . . .		...
3837	658	793	142		735-36	8 Bhāva . . .		6 Bhādrapada
3838	659	794	143		*736-37	9 Yuvan . . .		...
3839	660	795	144		737-38	10 Dhātṛi . . .		...
3840	661	796	145		738-39	11 Iśvara . . .		5 Śrāvana .
3841	662	797	146		739-40	12 Bahudhānya . . .		° ...
3842	663	798	147		*740-41	13 Pramāthin . . .		...
3843	664	799	148		741-42	14 Vikrama . . .		3 Jyēshtha .
3844	665	800	149		742-43	15 Vṛisha . . .		...
3845	666	801	150		743-44	16 Chitrabhānu . . .	{ 7 Āsvina 11 Māgha ( <i>keś</i> ) }	
3846	667	802	151		*744-45	17 Subhānu . . .		1 Chaitra .
3847	668	803	152		745-46	18 Tārana . . .		...

† 7 Śrīmukha was suppressed.

LXXXII—Contd.

COMMENCEMENT OF THE									Kali.
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).						
Day and month A. D.	Week-day.	Time of true Mēsha-sam-krānti.	Day and month A. D.	Week-day.	a	b	c		
13	14	17	19	20	23	24	25	1	
		H. M. S.							
19 Mar. (78)	4 Wed.	13 48 15	4 Mar. (63)	3 Tues.	51-3511	294-5011	234-9767	3823	
19 Mar. (78)	5 Thur.	20 0 24	21 Feb. (52)	0 Sat.	9927-0739	141-7452	204-1534	3824	
20 Mar. (79)	0 Sat.	2 12 33	12 Mar. (71)	6 Fri.	9061-7503	77-7335	255-4693	3825	
19 Mar. (79)	1 Sun.	8 24 42	1 Mar. (61)	4 Wed.	176-1112	961-2743	227-3785	3826	
19 Mar. (78)	2 Mon.	14 36 51	18 Feb. (49)	1 Sun.	51-8342	808-5184	196-5552	3827	
19 Mar. (78)	3 Tues.	20 49 0	9 Mar. (68)	0 Sat.	86-5163	744-5118	247-8656	3828	
20 Mar. (79)	5 Thur.	3 1 9	26 Feb. (57)	4 Wed.	9962-2392	591-7559	217-0425	3829	
19 Mar. (79)	6 Fri.	9 13 18	16 Mar. (76)	3 Tues.	9996-9216	527-7493	268-3529	3830	
19 Mar. (78)	0 Sat.	15 25 27	5 Mar. (64)	0 Sat.	9872-6444	374-9934	237-5297	3831	
19 Mar. (78)	1 Sun.	21 37 36	22 Feb. (53)	4 Wed.	9748-3673	222-2374	206-7064	3832	
20 Mar. (79)	3 Tues.	3 49 45	13 Mar. (72)	3 Tues.	9783-0497	158-2309	258-0169	3833	
19 Mar. (79)	4 Wed.	10 1 54	2 Mar. (62)	1 Sun.	9997-4046	41-7666	229-9215	3834	
19 Mar. (78)	5 Thur.	16 14 3	20 Feb. (51)	6 Fri.	211-7493	925-3023	201-8460	3835	
19 Mar. (78)	6 Fri.	22 26 12	11 Mar. (70)	5 Thur.	246-4417	861-2958	253-1564	3836	
20 Mar. (79)	1 Sun.	4 38 21	28 Feb. (59)	2 Mon.	122-1646	708-5398	222-3332	3837	
19 Mar. (79)	2 Mon.	10 50 30	18 Mar. (78)	1 Sun.	156-8460	644-5333	274-6437	3838	
19 Mar. (78)	3 Tues.	17 2 39	7 Mar. (66)	5 Thur.	32-5698	501-7773	242-8204	3839	
19 Mar. (78)	4 Wed.	23 14 48	24 Feb. (55)	2 Mon.	9908-2926	339-0214	211-9973	3840	
20 Mar. (79)	6 Fri.	5 26 57	15 Mar. (74)	1 Sun.	9942-9751	275-0149	263-2077	3841	
19 Mar. (79)	0 Sat.	11 39 6	3 Mar. (63)	5 Thur.	9818-6978	122-2588	232-4845	3842	
19 Mar. (78)	1 Sun.	17 51 15	21 Feb. (52)	3 Tues.	33-0527	5-7947	204-3990	3843	
20 Mar. (79)	3 Tues.	0 3 24	12 Mar. (71)	2 Mon.	67-7351	941-7880	255-7105	3844	
20 Mar. (79)	4 Wed.	6 15 33	2 Mar. (61)	0 Sat.	282-0900	825-3238	227-6240	3845	
19 Mar. (79)	5 Thur.	12 27 42	19 Feb. (50)	4 Wed.	157-8127	672-5678	196-8007	3846	
19 Mar. (78)	6 Fri.	18 39 51	9 Mar. (68)	3 Tues.	192-4951	608-5613	248-1112	3847	

TABLE

CONCURRENT YEAR.								Intercalated ( <i>adhika</i> ) and suppressed ( <i>kshaya</i> ) true lunar months.
Kalī.	Saka.	Chaitrādi Vikrama.	Mēhādī solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
3848	669	804	153		746-47	19 Pārthiva . . .		5 Śrāvaṇa .
3849	670	805	154		747-48	20 Vyaya . . .		...
3850	671	806	155		*748-49	21 Sarvajit . . .		...
3851	672	807	156		749-50	22 Sarvadhārin . . .		3 Jyēshṭha .
3852	673	808	157		750-51	23 Virōdhin . . .		...
3853	674	809	158		751-52	24 Vikṛita . . .		...
3854	675	810	159		*752-53	25 Khara . . .		2 Vaiśākha .
3855	676	811	160		753-54	26 Nandana . . .		...
3856	677	812	161		754-55	27 Vijaya . . .		6 Bhādrapada
3857	678	813	162		755-56	28 Jaya . . .		...
3858	679	814	163		*756-57	29 Manmatha . . .		...
3859	680	815	164		757-58	30 Durmukha . . .		4 Āshāḍha .
3860	681	816	165		758-59	31 Hēmalamba . . .		...
3861	682	817	166		759-60	32 Vilamba . . .		...
3862	683	818	167		*760-61	33 Vikārin . . .		3 Jyēshṭha
3863	684	819	168		761-62	34 Śārvarin . . .		...
3864	685	820	169		762-63	35 Plava . . .		7 Āvina .
3865	686	821	170		763-64	36 Śubhakṛit . . .		...
3866	687	822	171		*764-65	37 Śōbhana . . .		...
3867	688	823	172		765-66	38 Krōdhin . . .		5 Śrāvaṇa
3868	689	824	173		766-67	39 Viśvāvasu . . .		...
3869	690	825	174		767-68	40 Parābhava . . .		...
3870	691	826	175		*768-69	41 Plavaṅga . . .		3 Jyēshṭha
3871	692	827	176		769-70	42 Kṛika . . .		...
3872	693	828	177		770-71	43 Saumya . . .		...

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| University Library, ditto.                          | Chittagong College Library, Chittagong.                          |
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| Bombay Branch of the Royal Asiatic Society, Bombay. | Provincial Library, Dacca.                                       |
| Secretariat Library, Calcutta.                      | Varendra Research Society, Rajshahi.                             |
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| University Library, ditto.                          | Patna College Library, Bankipore.                                |
| Sanskrit College Library, Calcutta.                 | Agra College Library, Agra.                                      |
| Presidency College Library, ditto.                  | Muir Central College Library, Allahabad.                         |
| Asiatic Society of Bengal, ditto.                   | Panini Office, Allahabad.  |
| Secretariat Library, Allahabad.                     | Central Hindu College Library, Benares.                          |
| University Library, ditto.                          | Queen's College Library, Benares.                                |
| Provincial Museum, Lucknow.                         | Canning College Library, Lucknow.                                |
| Sanskrit College Library, Benares.                  | Archæological Museum Library, Muttra.                            |
| Secretariat Library, Lahore.                        | Forman Christian College Library, Lahore.                        |
| Museum Library, ditto.                              | Government College Library, Lahore.                              |
| University Library, ditto.                          | Punjab Historical Society, Lahore.                               |
| Oriental College Library, Lahore.                   | Punjab Public Library, Lahore.                                   |
| Secretariat Library, Nagpur.                        | Museum Library, Delhi.   |
| Museum Library, ditto.                              | Public Library, Delhi.   |
| Secretariat Library, Rangoon.                       | Peshawar Museum Library, Peshawar.                               |
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| Maharajah's College Library, Vizayanagaram.         | Bhuri Singh Museum Library, Chamba.                              |
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LXXXII—*Contd.*

COMMENCEMENT OF THE								
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).					Kali.
Day and month A. D.	Week-day.	Time of true Mōsha-sam-krānti.	Day and month A. D.	Week-day.	$\alpha$	$\delta$	$\epsilon$	
13	14	17	19	20	23	24	25	
		H. M. S.						1
20 Mar. (79)	1 Sun. .	0 52 0	26 Feb. (57)	0 Sat. .	68-2180	455-8054	217-2881	3848
20 Mar. (79)	2 Mon.	7 4 9	17 Mar. (76)	6 Fri. .	102-9003	391-7988	268-4984	3849
19 Mar. (79)	3 Tues.	13 16 18	5 Mar. (65)	3 Tues.	9978-6232	239-0429	237-7752	3850
19 Mar. (78)	4 Wed.	19 28 27	22 Feb. (53)	0 Sat. .	9854-3461	86-2869	206-9520	3851
20 Mar. (79)	6 Fri. .	1 40 36	13 Mar. (72)	6 Fri. .	9889-0285	22-2804	258-2625	3852
20 Mar. (79)	0 Sat. .	7 52 45	3 Mar. (62)	4 Wed.	103-3833	905-8161	230-1770	3853
19 Mar. (79)	1 Sun. .	14 4 54	21 Feb. (52)	2 Mon.	317-7384	789-3518	202-0915	3854
19 Mar. (78)	2 Mon.	20 17 3	10 Mar. (69)	0 Sat. .	13-7885	689-0537	250-6642	3855
20 Mar. (79)	4 Wed.	2 29 12	28 Feb. (59)	5 Thur.	228-1433	572-5804	222-5788	3856
20 Mar. (79)	5 Thur.	8 41 21	18 Mar. (77)	3 Tues.	9924-1937	472-2911	271-1514	3857
19 Mar. (79)	6 Fri. .	14 53 30	6 Mar. (66)	0 Sat. .	9799-9166	319-5352	240-3282	3858
19 Mar. (78)	0 Sat. .	21 5 39	24 Feb. (55)	5 Thur.	14-2714	203-0709	212-2428	3859
20 Mar. (79)	2 Mon.	3 17 48	15 Mar. (74)	4 Wed.	48-9538	139-0644	263-5533	3860
20 Mar. (79)	3 Tues.	9 29 57	4 Mar. (63)	1 Sun. .	9924-6766	986-3084	232-7300	3861
19 Mar. (79)	4 Wed.	15 42 6	22 Feb. (53)	6 Fri. .	139-0315	869-8442	204-6445	3862
19 Mar. (78)	5 Thur.	21 54 15	12 Mar. (71)	5 Thur.	173-7138	805-8377	255-9550	3863
20 Mar. (79)	0 Sat. .	4 6 24	1 Mar. (60)	2 Mon.	49-4367	653-0816	225-1318	3864
20 Mar. (79)	1 Sun. .	10 18 33	20 Mar. (79)	1 Sun. .	84-1191	589-0751	276-4422	3865
19 Mar. (79)	2 Mon.	16 30 42	8 Mar. (68)	5 Thur.	9959-8420	436-3192	245-6189	3866
19 Mar. (78)	3 Tues.	22 42 51	25 Feb. (56)	2 Mon.	9835-5647	283-5633	214-7958	3867
20 Mar. (79)	5 Thur.	4 55 0	16 Mar. (75)	1 Sun. .	9870-2472	219-5567	206-1062	3868
20 Mar. (79)	6 Fri. .	11 7 8	6 Mar. (65)	6 Fri. .	84-6020	103-0923	238-0208	3869
19 Mar. (79)	0 Sat. .	17 19 17	23 Feb. (54)	3 Tues.	9960-3248	950-3365	207-1975	3870
19 Mar. (78)	1 Sun. .	23 31 26	13 Mar. (72)	2 Mon.	9905-0072	886-3299	258-5080	3871
20 Mar. (79)	3 Tues.	5 43 35	3 Mar. (62)	0 Sat. .	209-3621	769-8656	230-4226	3872



TABLE

CONCURRENT YEAR.								Intercalated (adhika) and suppressed (kshaya) true lunar months.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
3873	694	829	178		771-72	44 Sādhāraṇa . . .		2 Vaiśākha .
3874	695	830	179		*772-73	45 Virōdhakṛit . . .		...
3875	696	831	180		773-74	46 Paridhāvin . . .		6 Bhādrapada
3876	697	832	181		774-75	47 Pramādin . . .		...
3877	698	833	182		775-76	48 Ānanda . . .		...
3878	699	834	183		*776-77	49 Rākshasa . . .		4 Āshāḍha .
3879	700	835	184		777-78	50 Anala . . .		...
3880	701	836	185		778-79	51 Pīṅgala . . .		...
3881	702	837	186		779-80	52 Kālayukta . . .		3 Jyēshtha
3882	703	838	187		*780-81	53 Siddhārthin . . .		...
3883	704	839	188		781-82	54 Raudra . . .		7 Āvina .
3884	705	840	189		782-83	55 Durmati . . .		...
3885	706	841	190		783-84	56 Dundubhi . . .		...
3886	707	842	191		*784-85	57 Rudhirōdgārin . . .		5 Śrāvaṇa .
3887	708	843	192		785-86	58 Raktāksha . . .		...
3888	709	844	193		786-87	59 Krōdhana . . .		...
3889	710	845	194		787-88	60 Kshaya . . .		3 Jyēshtha .
3890	711	846	195		*788-89	1 Prabhava . . .		...
3891	712	847	196		789-90	2 Vibhava . . .		...
3892	713	848	197		790-91	3 Śukla . . .		2 Vaiśākha .
3893	714	849	198		791-92	4 Pramōda . . .		...
3894	715	850	199		*792-93	5 Prajāpati . . .		6 Bhādrapada
3895	716	851	200		793-94	6 Āṅgiras . . .		...
3896	717	852	201		794-95	7 Śrīmukha . . .		...
3897	718	853	202		795-96	8 Bhāva . . .		4 Āshāḍha .

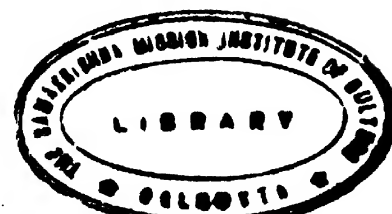
LXXXII—Contd.

COMMENCEMENT OF THE							
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).				
Day and month A. D.	Week-day.	Time of true Mēsha-saṁkrānti.	Day and month A. D.	Week-day.	a	b	c
13	14	17	19	20	23	24	25
		H. M. S.					
20 Mar. (79)	4 Wed. .	11 55 44	20 Feb. (51)	4 Wed. .	75-0849	617-1097	199-5993
19 Mar. (79)	5 Thur. .	18 7 53	10 Mar. (70)	3 Tues. .	119-7672	553-1032	250-9097
20 Mar. (79)	0 Sat. .	0 20 2	27 Feb. (58)	0 Sat. .	9995-4901	400-3472	220-0806
20 Mar. (79)	1 Sun. .	6 32 11	18 Mar. (77)	6 Fri. .	30-1725	336-3306	271-3970
20 Mar. (79)	2 Mon. .	12 44 20	7 Mar. (66)	3 Tues. .	9905-8953	183-5848	240-5738
19 Mar. (79)	3 Tues. .	18 56 29	25 Feb. (56)	1 Sun. .	120-2501	67-1204	212-4883
20 Mar. (79)	5 Thur. .	1 8 38	15 Mar. (74)	0 Sat. .	154-9326	3-1139	263-7988
20 Mar. (79)	6 Fri. .	7 20 47	4 Mar. (63)	4 Wed. .	30-6554	850-3579	232-9756
20 Mar. (79)	0 Sat. .	13 32 56	22 Feb. (53)	2 Mon. .	245-0102	733-8937	204-8901
19 Mar. (79)	1 Sun. .	19 45 5	12 Mar. (72)	1 Sun. .	279-6928	669-8872	256-2005
20 Mar. (79)	3 Tues. .	1 57 14	1 Mar. (60)	5 Thur. .	155-4155	517-1311	225-3773
20 Mar. (79)	4 Wed. .	8 9 23	19 Mar. (78)	3 Tues. .	9851-4059	416-8330	273-9500
20 Mar. (79)	5 Thur. .	14 21 32	8 Mar. (67)	0 Sat. .	9727-1887	264-0770	243-1167
19 Mar. (79)	6 Fri. .	20 33 41	26 Feb. (57)	5 Thur. .	9941-5435	147-6128	215-0413
20 Mar. (79)	1 Sun. .	2 45 50	16 Mar. (75)	4 Wed. .	9976-2260	83-6062	266-3517
20 Mar. (79)	2 Mon. .	8 57 59	6 Mar. (65)	2 Mon. .	190-5807	967-1418	238-2664
20 Mar. (79)	3 Tues. .	15 10 8	23 Feb. (54)	6 Fri. .	66-3036	814-3852	207-4431
19 Mar. (79)	4 Wed. .	21 22 17	13 Mar. (73)	5 Thur. .	100-9860	750-3794	258-7535
20 Mar. (79)	6 Fri. .	3 34 26	2 Mar. (61)	2 Mon. .	9976-7089	597-6235	227-9303
20 Mar. (79)	0 Sat. .	9 46 35	19 Feb. (50)	6 Fri. .	9852-4317	444-8676	197-1071
20 Mar. (79)	1 Sun. .	15 58 44	10 Mar. (69)	5 Thur. .	9887-1140	380-8610	248-4175
19 Mar. (79)	2 Mon. .	22 10 53	27 Feb. (58)	2 Mon. .	9762-8369	228-1051	218-4943
20 Mar. (79)	4 Wed. .	4 23 2	17 Mar. (76)	1 Sun. .	9797-5192	164-0986	268-9047
20 Mar. (79)	5 Thur. .	10 35 11	7 Mar. (66)	6 Fri. .	11-8741	47-6342	240-8194
20 Mar. (79)	6 Fri. .	16 47 20	25 Feb. (56)	4 Wed. .	226-2289	931-1699	212-7339

Kali.

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TABLE

CONCURRENT YEAR.								Intercalated (adhika) and suppressed (kshaya) true lunar months.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
3898	719	854	203		*796-97	9 Yuvan . . .		...
3899	720	855	204		797-98	10 Dhātri . . .		...
3900	721	856	205		798-99	11 Īvara . . .		3 Jyēshṭha .
3901	722	857	206		799-800	12 Bahudhānya . . .		...
3902	723	858	207		*800-01	13 Pramāthin . . .		7 Āvina .
3903	724	859	208		801-02	14 Vikrama . . .		...
3904	725	860	209		802-03	15 Vṛisha . . .		...
3905	726	861	210		803-04	16 Chitrabhānu . . .		5 Śrāvaṇa .
3906	727	862	211		*804-05	17 Subhānu . . .		...
3907	728	863	212		805-06	18 Tāraṇa . . .		...
3908	729	864	213		806-07	19 Pārthiva . . .		3 Jyēshṭha .
3909	730	865	214		807-08	20 Vyaya . . .		...
3910	731	866	215		*808-09	21 Sarvajit . . .		...
3911	732	867	216		809-10	22 Sarvadhārin . . .		1 Chaitra .
3912	733	868	217		810-11	23 Virōdhin . . .		...
3913	734	869	218		811-12	24 Vikṛita . . .		5 Śrāvaṇa .
3914	735	870	219		*812-13	25 Khara . . .		...
3915	736	871	220		813-14	26 Nandana . . .		...
3916	737	872	221		814-15	27 Vijaya . . .		4 Āshāḍha .
3917	738	873	222		815-16	28 Jaya . . .		...
3918	739	874	223		*816-17	29 Manmatha . . .		...
3919	740	875	224		817-18	30 Durmukha . . .		3 Jyēshṭha .
3920	741	876	225		818-19	31 Hēmalamba . . .		...
3921	742	877	226		819-20	32 Vilamba† . . .		7 Āvina .
3922	743	878	227		*820-21	34 Śārvarin . . .		...

† 33 Vikārin was suppressed.

LXXXII—Contd.

COMMENCEMENT OF THE								
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).					Kali.
Day and month A. D.	Week-day.	Time of true Mōsha-sam-krānti.	Day and month A. D.	Week-day.	a	b	c	
13	14	17	19	20	23	24	25	
		H. M. S.						1
19 Mar. (79)	0 Sat. .	22 59 29	15 Mar. (75)	3 Tues. .	260-9113	867-1034	264-0442	3898
20 Mar. (79)	2 Mon. .	5 11 38	4 Mar. (63)	0 Sat. .	136-6341	714-4074	233-2211	3899
20 Mar. (79)	3 Tues. .	11 23 47	21 Feb. (52)	4 Wed. .	12-3570	561-6515	202-3979	3900
20 Mar. (79)	4 Wed. .	17 35 56	12 Mar. (71)	3 Tues. .	47-0394	497-6449	253-6621	3901
19 Mar. (79)	5 Thur. .	23 48 5	19 Feb. (60)	0 Sat. .	9922-7623	344-8890	222-8629	3902
20 Mar. (79)	0 Sat. .	6 0 14	19 Mar. (78)	6 Fri. .	9957-4347	280-8825	274-1733	3903
20 Mar. (79)	1 Sun. .	12 12 23	8 Mar. (67)	3 Tues. .	9833-1675	128-1265	243-3500	3904
20 Mar. (79)	2 Mon. .	18 24 32	26 Feb. (57)	1 Sun. .	47-5223	11-6622	215-2647	3905
20 Mar. (80)	4 Wed. .	0 36 41	16 Mar. (76)	0 Sat. .	82-2048	947-6557	266-5751	3906
20 Mar. (79)	5 Thur. .	6 48 50	6 Mar. (65)	5 Thur. .	296-5595	831-1914	238-4897	3907
20 Mar. (79)	6 Fri. .	13 0 59	23 Feb. (54)	2 Mon. .	172-2824	678-4354	207-6664	3908
20 Mar. (79)	0 Sat. .	19 13 8	14 Mar. (73)	1 Sun. .	206-9648	614-4289	258-9769	3909
20 Mar. (80)	2 Mon. .	1 25 17	2 Mar. (62)	5 Thur. .	82-6876	461-6730	228-1537	3910
20 Mar. (79)	3 Tues. .	7 37 26	19 Feb. (50)	2 Mon. .	9958-4105	308-9171	197-3304	3911
20 Mar. (79)	4 Wed. .	13 49 35	10 Mar. (69)	1 Sun. .	9993-0928	244-9104	248-6408	3912
20 Mar. (79)	5 Thur. .	20 1 44	27 Feb. (58)	5 Thur. .	9868-8157	92-1545	217-8177	3913
20 Mar. (80)	0 Sat. .	2 13 52	17 Mar. (77)	4 Wed. .	9903-4980	28-1481	269-1281	3914
20 Mar. (79)	1 Sun. .	8 26 1	7 Mar. (66)	2 Mon. .	117-8529	906-6837	251-0427	3915
20 Mar. (79)	2 Mon. .	14 38 10	24 Feb. (55)	6 Fri. .	9993-5758	758-9278	210-2194	3916
20 Mar. (79)	3 Tues. .	20 50 19	15 Mar. (74)	5 Thur. .	28-2581	694-9212	264-5299	3917
20 Mar. (80)	5 Thur. .	3 2 28	3 Mar. (63)	2 Mon. .	9903-9810	542-1653	230-7067	3918
20 Mar. (79)	6 Fri. .	9 14 37	21 Feb. (52)	0 Sat. .	118-3358	425-7009	202-6212	3919
20 Mar. (79)	0 Sat. .	15 26 46	11 Mar. (70)	5 Thur. .	9814-3862	325-4028	251-1938	3920
20 Mar. (79)	1 Sun. .	21 38 55	1 Mar. (60)	3 Tues. .	28-7410	208-9389	223-1084	3921
20 Mar. (80)	3 Tues. .	3 51 4	19 Mar. (79)	2 Mon. .	63-4234	144-9321	274-3989	3922

TABLE

CONCURRENT YEAR.								Intercalated ( <i>adhika</i> ) and suppressed ( <i>kshaya</i> ) true lunar months.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
3923	744	879	228		821-22	35 <i>Plava</i> . . . .		...
3924	745	880	229		822-23	36 <i>Śubhakṛit</i> . . . .		5 Śrāvaṇa .
3925	746	881	230		823-24	37 <i>Śūkhana</i> . . . .		...
3926	747	882	231		*824-25	38 <i>Krōdhin</i> . . . .		...
3927	748	883	232	0-1	825-26	39 <i>Viśvāvasu</i> . . . .		3 Jyēṣṭha .
3928	749	884	233	1-2	826-27	40 <i>Parābhava</i> . . . .		...
3929	750	885	234	2-3	827-28	41 <i>Plavaṅga</i> . . . .		...
3930	751	886	235	3-4	*828-29	42 <i>Kilaka</i> . . . .		1 Chaitra .
3931	752	887	236	4-5	829-30	43 <i>Saumya</i> . . . .		...
3932	753	888	237	5-6	830-31	44 <i>Sādhāraṇa</i> . . . .		5 Śrāvaṇa .
3933	754	889	238	6-7	831-32	45 <i>Virōdhakṛit</i> . . . .		...
3934	755	890	239	7-8	*832-33	46 <i>Paridhāvin</i> . . . .		...
3935	756	891	240	8-9	833-34	47 <i>Pramādin</i> . . . .		4 Āshāḍha .
3936	757	892	241	9-10	834-35	48 <i>Ānanda</i> . . . .		...
3937	758	893	242	10-11	835-36	49 <i>Rākshasa</i> . . . .		...
3938	759	894	243	11-12	*836-37	50 <i>Anala</i> . . . .		2 Vaiśākha .
3939	760	895	244	12-13	837-38	51 <i>Pīṅgala</i> . . . .		...
3940	761	896	245	13-14	838-39	52 <i>Kālayukta</i> . . . .		6 Bhādrapada
3941	762	897	246	14-15	839-40	53 <i>Siddhārthin</i> . . . .		...
3942	763	898	247	15-16	*840-41	54 <i>Raudra</i> . . . .		...
3943	764	899	248	16-17	841-42	55 <i>Durmati</i> . . . .		5 Śrāvaṇa
3944	765	900	249	17-18	842-43	56 <i>Dandubhi</i> . . . .		...
3945	766	901	250	18-19	843-44	57 <i>Rudhirōdgārin</i> . . . .		...
3946	767	902	251	19-20	*844-45	58 <i>Raktāksha</i> . . . .		3 Jyēṣṭha .
3947	768	903	252	20-21	845-46	59 <i>Krōdhana</i> . . . .		...

LXXXII—Contd.

COMMENCEMENT OF THE								
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).					Kali.
Day and month A. D.	Week-day.	Time of true Mēsha-samkrānti.	Day and month A. D.	Week-day.	a	b	c	
13	14	17	19	20	23	24	25	1
		H. M. S.						
20 Mar. (79)	4 Wed.	10 3 13	8 Mar. (67)	6 Fri.	9939-1463	992-1760	243-5956	3923
20 Mar. (79)	5 Thur.	16 15 22	26 Feb. (57)	4 Wed.	153-5010	875-7118	215-5102	3924
20 Mar. (79)	6 Fri.	22 27 31	17 Mar. (70)	3 Tues.	188-1834	811-7052	266-8206	3925
20 Mar. (80)	1 Sun.	4 39 40	5 Mar. (65)	0 Sat.	63-9063	658-9493	235-9975	3926
20 Mar. (79)	2 Mon.	10 51 49	22 Feb. (53)	4 Wed.	9939-6292	506-1933	205-1642	3927
20 Mar. (79)	3 Tues.	17 3 58	13 Mar. (72)	3 Tues.	9974-3115	442-1868	256-4846	3928
20 Mar. (79)	4 Wed.	23 16 7	2 Mar. (61)	0 Sat.	9850-0344	289-4309	225-6614	3929
20 Mar. (80)	6 Fri.	5 28 16	20 Feb. (51)	5 Thur.	64-6593	172-9666	197-5760	3930
20 Mar. (79)	0 Sat.	11 40 25	10 Mar. (69)	4 Wed.	98-8015	108-9590	248-8804	3931
20 Mar. (79)	1 Sun.	17 52 34	27 Feb. (58)	1 Sun.	9974-7944	956-2040	218-0632	3932
21 Mar. (80)	3 Tues.	0 4 43	18 Mar. (77)	0 Sat.	9-4768	892-1976	269-3736	3933
20 Mar. (80)	4 Wed.	6 16 52	7 Mar. (67)	5 Thur.	223-8317	775-7333	241-2883	3934
20 Mar. (79)	5 Thur.	12 29 1	24 Feb. (55)	2 Mon.	99-5545	622-9773	210-4650	3935
20 Mar. (79)	6 Fri.	18 41 10	15 Mar. (74)	1 Sun.	134-2369	558-9708	261-7754	3936
21 Mar. (80)	1 Sun.	0 53 19	4 Mar. (63)	5 Thur.	9-9598	406-2148	230-9622	3937
20 Mar. (80)	2 Mon.	7 5 28	21 Feb. (52)	2 Mon.	9885-6626	253-4589	200-1290	3938
20 Mar. (79)	3 Tues.	13 17 37	11 Mar. (70)	1 Sun.	9920-3649	189-4523	252-4294	3939
20 Mar. (79)	4 Wed.	19 29 46	28 Feb. (59)	5 Thur.	9796-0878	36-6964	220-6162	3940
21 Mar. (80)	6 Fri.	1 41 55	20 Mar. (79)	5 Thur.	169-4022	8-9816	274-6644	3941
20 Mar. (80)	0 Sat.	7 54 4	8 Mar. (68)	2 Mon.	45-1250	856-2255	243-8412	3942
20 Mar. (79)	1 Sun.	14 6 13	26 Feb. (57)	0 Sat.	259-4798	739-7613	215-7558	3943
20 Mar. (79)	2 Mon.	20 18 22	17 Mar. (76)	6 Fri.	294-1622	675-7547	267-0662	3944
21 Mar. (80)	4 Wed.	2 30 31	6 Mar. (65)	3 Tues.	169-8851	522-9988	236-0990	3945
20 Mar. (80)	5 Thur.	8 42 40	23 Feb. (54)	0 Sat.	45-5979	370-2428	206-4197	3946
20 Mar. (79)	6 Fri.	14 54 49	12 Mar. (71)	5 Thur.	9741-6583	269-9440	253-9924	3947

TABLE

CONCURRENT YEAR.								Intercalated ( <i>adhika</i> ) and suppressed ( <i>kshaya</i> ) true lunar months.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
3948	769	904	253	21-22	846-47	60 Kshaya . . .		...
3949	770	905	254	22-23	847-48	1 Prabhava . . .		1 Chaitra .
3950	771	906	255	23-24	*848-49	2 Vibhava . . .		...
3951	772	907	256	24-25	849-50	3 Śukla . . .		5 Śrāvaṇa .
3952	773	908	257	25-26	850-51	4 Pramōda . . .		...
3953	774	909	258	26-27	851-52	5 Prajāpati . . .		...
3954	775	910	259	27-28	*852-53	6 Aṅgiras . . .		4 Āshāḍha .
3955	776	911	260	28-29	853-54	7 Śrimukha . . .		...
3956	777	912	261	29-30	854-55	8 Bhāva . . .		...
3957	778	913	262	30-31	855-56	9 Yuvan . . .		2 Vaiśākha
3958	779	914	263	31-32	*856-57	10 Dhātṛi . . .		...
3959	780	915	264	32-33	857-58	11 Īvara . . .		6 Bhādrapada
3960	781	916	265	33-34	858-59	12 Bahudhānya . . .		...
3961	782	917	266	34-35	859-60	13 Pramāthin . . .		...
3962	783	918	267	35-36	*860-61	14 Vikrama . . .		5 Śrāvaṇa .
3963	784	919	268	36-37	861-62	15 Vṛisha . . .		...
3964	785	920	269	37-38	862-63	16 Chitrabhānu . . .		...
3965	786	921	270	38-39	863-64	17 Subhānu . . .		3 Jyēṣṭha
3966	787	922	271	39-40	*864-65	18 Tārana . . .		...
3967	788	923	272	40-41	865-66	19 Pārthiva . . .	{ 7 Āśvina 9 Mārgaśīrṣa : ( <i>ksh</i> ) }	
3968	789	924	273	41-42	866-67	20 Vyaya . . .		1 Chaitra .
3969	790	925	274	42-43	867-68	21 Sarvajit . . .		...
3970	791	926	275	43-44	*868-69	22 Sarvadhārin . . .		5 Śrāvaṇa .
3971	792	927	276	44-45	869-70	23 Virōdhin . . .		...
3972	793	928	277	45-46	870-71	24 Vikṛita . . .		...

LXXXII—*Contd.*

COMMENCEMENT OF THE								
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).					Kali.
Day and month A.D.	Week-day.	Time of true Mēsha-saṅkṛānti.	Day and month A. D.	Week-day.	<i>a</i>	<i>b</i>	<i>c</i>	
13	14	17	19	20	23	24	25	1
20 Mar. (79)	0 Sat.	H. M. S. 21 6 58	2 Mar. (61)	3 Tues.	9956-0132	153-4804	226-0070	3948
21 Mar. (80)	2 Mon.	3 19 7	19 Feb. (50)	0 Sat.	9832-2167	0-7839	195-0837	3949
20 Mar. (80)	3 Tues.	9 31 16	10 Mar. (70)	0 Sat.	205-0503	973-0095	249-2319	3950
20 Mar. (79)	4 Wed.	15 43 25	27 Feb. (58)	4 Wed.	80-7732	820-2535	218-4088	3951
20 Mar. (79)	5 Thur.	21 55 34	18 Mar. (77)	3 Tues.	115-4556	756-2470	269-6192	3952
21 Mar. (80)	0 Sat.	4 7 43	7 Mar. (66)	0 Sat.	9991-1784	603-4911	238-7960	3953
20 Mar. (80)	1 Sun.	10 19 52	24 Feb. (55)	4 Wed.	9866-9013	450-7353	207-9727	3954
20 Mar. (79)	2 Mon.	16 32 1	14 Mar. (73)	3 Tues.	9900-5837	386-7286	259-2832	3955
20 Mar. (79)	3 Tues.	22 49 10	3 Mar. (62)	0 Sat.	9777-3065	233-9727	228-4600	3956
21 Mar. (80)	5 Thur.	4 56 19	21 Feb. (52)	5 Thur.	9991-6613	117-5094	200-3745	3957
20 Mar. (80)	6 Fri.	11 8 28	11 Mar. (71)	4 Wed.	26-3437	53-5018	251-6849	3958
20 Mar. (79)	0 Sat.	17 20 37	1 Mar. (60)	2 Mon.	240-4285	937-0375	223-5995	3959
20 Mar. (79)	1 Sun.	23 32 45	20 Mar. (79)	1 Sun.	275-3809	873-0310	274-9100	3960
21 Mar. (80)	3 Tues.	5 44 54	9 Mar. (68)	5 Thur.	151-1038	720-2751	244-0867	3961
20 Mar. (80)	4 Wed.	11 57 3	26 Feb. (57)	2 Mon.	26-8266	567-5191	213-2635	3962
20 Mar. (79)	5 Thur.	18 9 12	16 Mar. (75)	1 Sun.	61-5090	503-5126	264-5739	3963
21 Mar. (80)	0 Sat.	0 21 21	5 Mar. (64)	5 Thur.	9937-2318	350-7566	233-5708	3964
21 Mar. (80)	1 Sun.	6 33 30	22 Feb. (53)	2 Mon.	9812-9547	198-0007	202-9275	3965
20 Mar. (80)	2 Mon.	12 45 39	12 Mar. (72)	1 Sun.	9847-6371	132-9941	254-2379	3966
20 Mar. (79)	3 Tues.	18 57 48	2 Mar. (61)	6 Fri.	61-9919	17-5299	226-1525	3967
21 Mar. (80)	5 Thur.	1 9 57	19 Feb. (50)	3 Tues.	9937-7149	864-7741	195-3293	3968
21 Mar. (80)	6 Fri.	7 22 6	11 Mar. (70)	3 Tues.	311-0291	837-0590	249-3775	3969
20 Mar. (80)	0 Sat.	13 34 15	28 Feb. (59)	0 Sat.	186-7519	684-3031	218-5543	3970
20 Mar. (79)	1 Sun.	19 46 24	18 Mar. (77)	6 Fri.	221-4343	620-2965	269-8647	3971
21 Mar. (80)	3 Tues.	1 58 33	7 Mar. (66)	3 Tues.	97-1572	467-5406	239-0416	3972



TABLE

CONCURRENT YEAR.								Intercalated ( <i>adhika</i> ) and suppressed ( <i>Kshaya</i> ) true lunar months.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
3973	794	929	278	46-47	871-72	25 Khara . . .		4 Āshāḍha .
3974	795	930	279	47-48	*872-73	26 Nandana . . .		...
3975	796	931	280	48-49	873-74	27 Vijaya . . .		...
3976	797	932	281	49-50	874-75	28 Jaya . . .		2 Vaiśākha .
3977	798	933	282	50-51	875-76	29 Manmatha . . .		...
3978	799	934	283	51-52	*876-77	30 Durmukha . . .		6 Bhādrapada
3979	800	935	284	52-53	877-78	31 Hēmalamba . . .		...
3980	801	936	285	53-54	878-79	32 Vilamba . . .		...
3981	802	937	286	54-55	879-80	33 Vikārin . . .		5 Śrāvaṇa .
3982	803	938	287	55-56	*880-81	34 Śārvarin . . .		...
3983	804	939	288	56-57	881-82	35 Plava . . .		...
3984	805	940	289	57-58	882-83	36 Śubhakrit . . .		3 Jyēshṭha .
3985	806	941	290	58-59	883-84	37 Śobhana . . .		...
3986	807	942	291	59-60	*884-85	38 Krōdhin . . .	{ 7 Āsvina 10 Pausa ( <i>ksh.</i> ) }	
3987	808	943	292	60-61	885-86	39 Viśvāvasu . . .		1 Chaitra .
3988	809	944	293	61-62	886-87	40 Parābhava . . .		...
3989	810	945	294	62-63	887-88	41 Plavaṅga . . .		5 Śrāvaṇa .
3990	811	946	295	63-64	*888-89	42 Kilaka . . .		...
3991	812	947	296	64-65	889-90	43 Saumya . . .		...
3992	813	948	297	65-66	890-91	44 Sādhāraṇa . . .		3 Jyēshṭha .
3993	814	949	298	66-67	891-92	45 Virōdhakrit . . .		...
3994	815	950	299	67-68	*892-93	46 Paridhāvin . . .		...
3995	816	951	300	68-69	893-94	47 Pramādin . . .		2 Vaiśākha .
3996	817	952	301	69-70	894-95	48 Ananda . . .		...
3997	818	953	302	70-71	895-96	49 Rākshasa . . .		6 Bhādrapada

LXXXII—Contd.

COMMENCEMENT OF THE								
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).					Kali.
Day and month A. D.	Week-day.	Time of true Mēsha-samkrānti.	Day and month A. D.	Week-day.	a	b	c	
13	14	17	19	20	23	24	25	1
		H. M. S.						
21 Mar. (80)	4 Wed. .	8 10 42	24 Feb. (55)	0 Sat. .	9972-8801	313-7846	208-2183	3973
20 Mar. (80)	5 Thur. .	14 22 51	14 Mar. (74)	6 Fri. .	7-5624	250-7781	259-5087	3974
20 Mar. (79)	6 Fri. .	20 35 0	3 Mar. (62)	3 Tues. .	9883-2853	98-0222	228-7055	3975
21 Mar. (80)	1 Sun. .	2 47 9	21 Feb. (52)	1 Sun. .	97-6401	981-5579	200-6101	3976
21 Mar. (80)	2 Mon. .	8 59 18	12 Mar. (71)	0 Sat. .	132-3224	917-5514	251-9305	3977
20 Mar. (80)	3 Tues. .	15 11 27	29 Feb. (60)	4 Wed. .	8-0453	764-7954	221-1072	3978
20 Mar. (79)	4 Wed. .	21 23 36	19 Mar. (78)	3 Tues. .	42-7277	700-7889	272-4177	3979
21 Mar. (80)	6 Fri. .	3 35 45	8 Mar. (67)	0 Sat. .	9918-4506	548-0330	241-5146	3980
21 Mar. (80)	0 Sat. .	9 47 54	26 Feb. (57)	5 Thur. .	132-8053	431-5686	213-5091	3981
20 Mar. (80)	1 Sun. .	16 0 3	15 Mar. (75)	3 Tues. .	9828-8558	331-2705	262-0817	3982
20 Mar. (79)	2 Mon. .	22 12 12	5 Mar. (64)	1 Sun. .	43-2106	214-8061	234-0013	3983
21 Mar. (80)	4 Wed. .	4 24 21	22 Feb. (53)	5 Thur. .	9918-9335	62-0502	203-1731	3984
21 Mar. (80)	5 Thur. .	10 36 30	13 Mar. (72)	4 Wed. .	9953-6158	998-0436	254-4835	3985
20 Mar. (80)	6 Fri. .	16 48 39	2 Mar. (62)	2 Mon. .	167-9707	881-5794	226-3980	3986
20 Mar. (79)	0 Sat. .	23 0 48	19 Feb. (50)	6 Fri. .	43-6936	728-9235	195-5748	3987
21 Mar. (80)	2 Mon. .	5 12 57	10 Mar. (69)	5 Thur. .	78-3759	664-8169	246-7165	3988
21 Mar. (80)	3 Tues. .	11 25 6	27 Feb. (58)	2 Mon. .	9954-0987	512-0610	216-0621	3989
20 Mar. (80)	4 Wed. .	17 37 15	17 Mar. (77)	1 Sun. .	9988-7811	448-0544	267-3724	3990
20 Mar. (79)	5 Thur. .	23 49 24	6 Mar. (65)	5 Thur. .	9864-5040	294-2984	236-5493	3991
21 Mar. (80)	0 Sat. .	6 1 33	23 Feb. (54)	2 Mon. .	9740-2268	142-5426	205-7261	3992
21 Mar. (80)	1 Sun. .	12 13 42	14 Mar. (73)	1 Sun. .	9774-9092	78-5360	257-0365	3993
20 Mar. (80)	2 Mon. .	18 25 51	3 Mar. (63)	6 Fri. .	9989-2641	962-0717	228-9510	3994
21 Mar. (80)	4 Wed. .	0 38 0	21 Feb. (52)	4 Wed. .	203-6198	845-6075	200-6968	3995
21 Mar. (80)	5 Thur. .	6 50 9	12 Mar. (71)	3 Tues. .	238-3012	781-6009	252-0073	3996
21 Mar. (80)	6 Fri. .	31 2 18	1 Mar. (60)	0 Sat. .	114-0241	628-8449	221-3528	3997

TABLE

CONCURRENT YEAR.								Intercalated ( <i>adhika</i> ) and suppressed ( <i>kshaya</i> ) true lunar months.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
3998	819	954	303	71-72	*896-97	50 Anala . . . .		...
3999	820	955	304	72-73	897-98	51 Piṅgala . . . .		...
4000	821	956	305	73-74	898-99	52 Kāluyukta . . . .		4 Āshāḍha
4001	822	957	306	74-75	899-900	53 Siddhārthin . . . .		...
4002	823	958	307	75-76	*900-01	54 Raudra . . . .		...
4003	824	959	308	76-77	901-02	55 Durmati . . . .		3 Jyēshṭha .
4004	825	960	309	77-78	902-03	56 Dundubhi . . . .		...
4005	826	961	310	78-79	903-04	57 Rudhirōdgārin . . . .		7 Āśvina .
4006	827	962	311	79-80	*904-05	58 Raktāksha† . . . .		...
4007	828	963	312	80-81	905-06	59 Krōdhana . . . .	60 Kshaya . . . .	...
4008	829	964	313	81-82	906-07	60 Kshaya . . . .	1 Prabhava . . . .	5 Śrāvaṇa .
4009	830	965	314	82-83	907-08	1 Prabhava . . . .	2 Vibhava . . . .	...
4010	831	966	315	83-84	*908-09	2 Vibhava . . . .	3 Śukla . . . .	...
4011	832	967	316	84-85	909-10	3 Śukla . . . .	4 Pramōda . . . .	3 Jyēshṭha .
4012	833	968	317	85-86	910-11	4 Pramōda . . . .	5 Prajāpati . . . .	...
4013	834	969	318	86-87	911-12	5 Prajāpati . . . .	6 Āṅgiras . . . .	...
4014	835	970	319	87-88	*912-13	6 Āṅgiras . . . .	7 Śrīmukha . . . .	2 Vaiśākha .
4015	836	971	320	88-89	913-14	7 Śrīmukha . . . .	8 Bhāva . . . .	...
4016	837	972	321	89-90	914-15	8 Bhāva . . . .	9 Yuvaṇ . . . .	6 Bhādrapada
4017	838	973	322	90-91	915-16	9 Yuvaṇ . . . .	10 Dhātṛi . . . .	...
4018	839	974	323	91-92	*916-17	10 Dhātṛi . . . .	11 Īśvara . . . .	...
4019	840	975	324	92-93	917-18	11 Īśvara . . . .	12 Bahudhānya . . . .	4 Āshāḍha .
4020	841	976	325	93-94	918-19	12 Bahudhānya . . . .	13 Pramāthin . . . .	...
4021	842	977	326	94-95	919-20	13 Pramāthin . . . .	14 Vikrama . . . .	...
4022	843	978	327	95-96	*920-21	14 Vikrama . . . .	15 Vṛisha . . . .	3 Jyēshṭha

† 59 Krōdhana was suppressed in the North. By Southern reckoning there was no suppression, nor has there been any such since.

LXXXII—Contd.

COMMENCEMENT OF THE								
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).					Kali.
Day and month A. D.	Week-day.	Time of true Mēsha-samkrānti.	Day and month A. D.	Week-day.	a	b	c	
13	14	17	19	20	23	24	25	
		H. M. S.						1
20 Mar. (80)	0 Sat. .	19 14 27	19 Mar. (79)	6 Fri. .	148-7064	564-8384	272-6032	3998
21 Mar. (80)	2 Mon. .	1 26 36	8 Mar. (67)	3 Tues. .	24-4293	412-0825	241-8401	3999
21 Mar. (80)	3 Tues. .	7 38 45	25 Feb. (56)	0 Sat. .	9900-1522	259-3266	211-0169	4000
21 Mar. (80)	4 Wed. .	13 50 54	16 Mar. (75)	6 Fri. .	9934-8345	195-3200	262-3050	4001
20 Mar. (80)	5 Thur. .	20 3 3	4 Mar. (64)	3 Tues. .	9810-5573	42-5640	231-4818	4002
21 Mar. (80)	0 Sat. .	2 15 12	22 Feb. (53)	1 Sun. .	24-9122	926-0997	203-3963	4003
21 Mar. (80)	1 Sun. .	8 27 21	13 Mar. (72)	0 Sat. .	59-5945	862-0930	254-7007	4004
21 Mar. (80)	2 Mon. .	14 29 29	3 Mar. (62)	5 Thur. .	273-9494	745-6289	226-6213	4005
20 Mar. (80)	3 Tues. .	20 51 38	20 Mar. (80)	3 Tues. .	9969-9998	645-3307	275-1940	4006
21 Mar. (80)	5 Thur. .	3 3 47	10 Mar. (69)	1 Sun. .	184-3546	528-8665	247-1085	4007
21 Mar. (80)	6 Fri. .	9 15 56	27 Feb. (58)	5 Thur. .	60-0774	376-1105	216-2853	4008
21 Mar. (80)	0 Sat. .	15 28 5	17 Mar. (76)	3 Tues. .	9756-1279	275-8123	264-8579	4009
20 Mar. (80)	1 Sun. .	21 40 14	6 Mar. (66)	1 Sun. .	9970-4827	159-3479	236-7726	4010
21 Mar. (80)	3 Tues. .	3 52 23	23 Feb. (54)	5 Thur. .	9846-2055	6-5921	205-9493	4011
21 Mar. (80)	4 Wed. .	10 4 32	14 Mar. (73)	4 Wed. .	9880-8879	942-5855	257-2597	4012
21 Mar. (80)	5 Thur. .	16 16 41	4 Mar. (63)	2 Mon. .	95-2428	826-1212	229-1743	4013
20 Mar. (80)	6 Fri. .	22 28 50	22 Feb. (53)	0 Sat. .	309-5975	709-6509	201-0889	4014
21 Mar. (80)	1 Sun. .	4 40 59	11 Mar. (70)	5 Thur. .	5-6479	609-3587	249-6615	4015
21 Mar. (80)	2 Mon. .	10 53 8	28 Feb. (59)	2 Mon. .	9881-3708	456-6028	218-8383	4016
21 Mar. (80)	3 Tues. .	17 5 17	19 Mar. (78)	1 Sun. .	9916-0531	392-5962	270-1487	4017
20 Mar. (80)	4 Wed. .	23 17 26	7 Mar. (67)	5 Thur. .	9791-7760	239-8403	239-3256	4018
21 Mar. (80)	6 Fri. .	5 29 35	25 Feb. (50)	3 Tues. .	6-1309	123-3760	211-2401	4019
21 Mar. (80)	0 Sat. .	11 41 44	10 Mar. (75)	2 Mon. .	40-8133	59-3695	262-5505	4020
21 Mar. (80)	1 Sun. .	17 53 53	5 Mar. (64)	6 Fri. .	9916-5360	906-6135	231-6273	4021
21 Mar. (81)	3 Tues. .	0 6 2	23 Feb. (54)	4 Wed. .	130-8909	790-1493	203-6419	4022

TABLE

CONCURRENT YEAR.								Intercalated ( <i>adhika</i> ) and suppressed ( <i>kshaya</i> ) true lunar months.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
4023	844	979	328	96-97	921-22	15 Vṛisha . .	16 Chitrabhānu .	...
4024	845	980	329	97-98	922-23	16 Chitrabhānu .	17 Subhānu .	7 Āśvina .
4025	846	981	330	98-99	923-24	17 Subhānu .	18 Tārāṇa .	...
4026	847	982	331	99-100	*924-25	18 Tārāṇa . .	19 Pārthiva .	...
4027	848	983	332	100-01	925-26	19 Pārthiva .	20 Vyaya .	5 Śrāvaṇa .
4028	849	984	333	101-02	926-27	20 Vyaya . .	21 Sarvajit .	...
4029	850	985	334	102-03	927-28	21 Sarvajit .	22 Sarvadhārin .	...
4030	851	986	335	103-04	*928-29	22 Sarvadhārin .	23 Virōdhin .	3 Jyēshṭha .
4031	852	987	336	104-05	929-30	23 Virōdhin .	24 Vikṛita .	...
4032	853	988	337	105-06	930-31	24 Vikṛita . .	25 Khara .	...
4033	854	989	338	106-07	931-32	25 Khara . .	26 Nandana .	2 Vaiśākha .
4034	855	990	339	107-08	*932-33	26 Nandana .	27 Vijaya .	...
4035	856	991	340	108-09	933-34	27 Vijaya . .	28 Jaya .	6 Bhādrapada
4036	857	992	341	109-10	934-35	28 Jaya . .	29 Manmatha .	...
4037	858	993	342	110-11	935-36	29 Manmatha .	30 Durmukha .	...
4038	859	994	343	111-12	*936-37	30 Durmukha .	31 Hēmalamba .	4 Āshāḍha .
4039	860	995	344	112-13	937-38	31 Hēmalamba .	32 Vilamba .	...
4040	861	996	345	113-14	938-39	32 Vilamba .	33 Vikārin .	...
4041	862	997	346	114-15	939-40	33 Vikārin .	34 Śārvarin .	3 Jyēshṭha .
4042	863	998	347	115-16	*940-41	34 Śārvarin .	35 Plava .	...
4043	864	999	348	116-17	941-42	35 Plava . .	36 Subhakṛit .	7 Āśvina .
4044	865	1000	349	117-18	942-43	36 Subhakṛit .	37 Śōbhana .	...
4045	866	1001	350	118-19	943-44	37 Śōbhana .	38 Krōdhin .	...
4046	867	1002	351	119-20	*944-45	38 Krōdhin .	39 Viśvāvasu .	5 Śrāvaṇa .
4047	868	1003	352	120-21	945-46	39 Viśvāvasu .	40 Parābhava .	...

LXXXII—Contd.

COMMENCEMENT OF THE								
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).					Kali.
Day and month A. D.	Week-day.	Time of true Mōsha-samkrānti.	Day and month A. D.	Week-day.	a	b	c	
13	14	17	19	20	23	24	25	1
		H. M. S.						
21 Mar. (80)	4 Wed. ♀	6 18 11	13 Mar. (72)	3 Tues. .	165-5733	726-1427	254-9523	4023
21 Mar. (80)	5 Thur. .	12 30 20	2 Mar. (61)	0 Sat. .	41-2961	573-3868	224-1290	4024
21 Mar. (80)	6 Fri. .	18 42 29	21 Mar. (80)	6 Fri. .	75-9785	509-3802	275-4395	2025
21 Mar. (81)	1 Sun. .	0 54 38	9 Mar. (69)	3 Tues. .	9951-7014	356-6243	244-6163	4026
21 Mar. (80)	2 Mon. .	7 6 47	26 Feb. (57)	0 Sat. .	9827-4242	203-8683	213-7931	4027
21 Mar. (80)	3 Tues. .	13 18 56	17 Mar. (76)	6 Fri. .	9862-0966	139-8618	265-1034	4028
21 Mar. (80)	4 Wed. .	19 31 5	7 Mar. (66)	4 Wed. .	76-4614	23-3975	237-0181	4029
21 Mar. (81)	6 Fri. .	1 43 14	24 Feb. (55)	1 Sun. .	9952-1843	870-6416	206-1949	4030
21 Mar. (80)	0 Sat. .	7 55 23	14 Mar. (73)	0 Sat. .	9986-8066	806-6351	257-5053	4031
21 Mar. (80)	1 Sun. .	14 7 32	4 Mar. (63)	5 Thur. .	201-2215	690-1707	229-4108	4032
21 Mar. (80)	2 Mon. .	20 19 41	21 Feb. (52)	2 Mon. .	76-9443	537-4148	198-5966	4033
21 Mar. (81)	4 Wed. .	2 31 50	11 Mar. (71)	1 Sun. .	111-6267	473-4083	249-9071	4034
21 Mar. (80)	5 Thur. .	8 43 59	28 Feb. (59)	5 Thur. .	9987-3495	320-6523	219-0839	4035
21 Mar. (80)	6 Fri. .	14 56 8	19 Mar. (78)	4 Wed. .	22-0310	250-0458	270-3942	4036
21 Mar. (80)	0 Sat. .	21 8 17	8 Mar. (67)	1 Sun. .	9897-7548	103-8898	239-5711	4037
21 Mar. (81)	2 Mon. .	3 20 26	26 Feb. (57)	6 Fri. .	112-1097	987-4256	211-4857	4038
21 Mar. (80)	3 Tues. .	9 32 35	16 Mar. (75)	5 Thur. .	146-7920	923-4190	262-7961	4039
21 Mar. (80)	4 Wed. .	15 44 44	5 Mar. (64)	2 Mon. .	22-5148	770-6630	231-9729	4040
21 Mar. (80)	5 Thur. .	21 56 53	23 Feb. (54)	0 Sat. .	236-8697	654-1988	203-8874	4041
21 Mar. (81)	0 Sat. .	4 9 2	12 Mar. (72)	5 Thur. .	9932-9200	553-9006	252-4601	4042
21 Mar. (80)	1 Sun. .	10 21 11	1 Mar. (60)	2 Mon. .	9808-6429	401-1447	221-6368	4043
21 Mar. (80)	2 Mon. .	16 33 20	20 Mar. (79)	1 Sun. .	9843-3253	337-1381	272-9473	4044
21 Mar. (80)	3 Tues. .	22 45 29	9 Mar. (68)	5 Thur. .	9719-0482	184-3821	242-1240	4045
21 Mar. (81)	5 Thur. .	4 57 38	27 Feb. (58)	3 Tues. .	9933-4029	67-9178	214-0386	4046
21 Mar. (80)	6 Fri. .	11 9 47	17 Mar. (76)	2 Mon. .	9968-0854	3-9113	265-3490	4047

TABLE

CONCURRENT YEAR.								Intercalated ( <i>adhika</i> ) and suppressed ( <i>kshaya</i> ) true lunar months.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshadi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
4048	869	1004	353	121-22	946-47	40 Parābhava .	41 Plavaṅga .	...
4049	870	1005	354	122-23	947-48	41 Plavaṅga .	42 Kilaka .	3 Jyēshtha .
4050	871	1006	355	123-24	*948-49	42 Kilaka .	43 Saumya .	...
4051	872	1007	356	124-25	949-50	43 Saumya .	44 Sādhāraṇa .	...
4052	873	1008	357	125-26	950-51	44 Sādhāraṇa .	45 Virōdhakṛit .	1 Chaitra .
4053	874	1009	358	126-27	951-52	45 Virōdhakṛit .	46 Paridhāvin .	...
4054	875	1010	359	127-28	*952-53	46 Paridhāvin .	47 Pramādin .	5 Śrāvaṇa .
4055	876	1011	360	128-29	953-54	47 Pramādin .	48 Ānanda .	...
4056	877	1012	361	129-30	954-55	48 Ānanda .	49 Rākshasa .	...
4057	878	1013	362	130-31	955-56	49 Rākshasa .	50 Anala .	4 Āshāḍha .
4058	879	1014	363	131-32	*956-57	50 Anala .	51 Piṅgala .	...
4059	880	1015	364	132-33	957-58	51 Piṅgala .	52 Kālayukta .	...
4060	881	1016	365	133-34	958-59	52 Kālayukta .	53 Siddhārthin .	3 Jyēshtha .
4061	882	1017	366	134-35	959-60	53 Siddhārthin .	54 Raudra .	...
4062	883	1018	367	135-36	*960-61	54 Raudra .	55 Durmati .	7 Āṣvina .
4063	884	1019	368	136-37	961-62	55 Durmati .	56 Dundubhi .	...
4064	885	1020	369	137-38	962-63	56 Dundubhi .	57 Rudhirōdgārin .	...
4065	886	1021	370	138-39	963-64	57 Rudhirōdgārin .	58 Raktāksha .	4 Āshāḍha† .
4066	887	1022	371	139-40	*964-65	58 Raktāksha .	59 Krōdhana .	...
4067	888	1023	372	140-41	965-66	59 Krōdhana .	60 Kshaya .	...
4068	889	1024	373	141-42	966-67	60 Kshaya .	1 Prabhava .	3 Jyēshtha .
4069	890	1025	374	142-43	967-68	1 Prabhava .	2 Vibhava .	...
4070	891	1026	375	143-44	*968-69	2 Vibhava .	3 Śukla .	12 Phālguna† .
4071	892	1027	376	144-45	969-70	3 Śukla .	4 Pramōda .	...
4072	893	1028	377	145-46	970-71	4 Pramōda .	5 Prajāpati .	...

† See "Remarks" above, on the page preceding the Table.

LXXXII—Contd.

COMMENCEMENT OF THE								
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).					Kali.
Day and month A. D.	Week-day.	Time of true Mēsha-samkrānti.	Day and month, A. D.	Week-day.	a	b	c	
13	14	17	19	20	23	24	25	1
		H. M. S.						
21 Mar. (80)	0 Sat. .	17 21 56	7 Mar. (86)	0 Sat. .	182-4402	887-4470	237-2637	4048
21 Mar. (80)	1 Sun. .	23 34 5	24 Feb. (55)	4 Wed. .	58-1630	734-6910	206-4404	4049
21 Mar. (81)	3 Tues. .	5 46 13	14 Mar. (74)	3 Tues. .	92-8454	670-6846	257-7508	4050
21 Mar. (80)	4 Wed. .	11 58 22	3 Mar. (62)	0 Sat. .	9968-5683	517-9286	226-9276	4051
21 Mar. (80)	5 Thur. .	18 10 31	20 Feb. (51)	4 Wed. .	9844-3112	365-1727	196-1044	4052
22 Mar. (81)	0 Sat. .	0 22 40	11 Mar. (70)	3 Tues. .	9878-9735	301-1662	247-4148	4053
21 Mar. (81)	1 Sun. .	6 34 49	28 Feb. (59)	0 Sat. .	9754-6963	148-4102	216-5916	4054
21 Mar. (80)	2 Mon. .	12 46 58	18 Mar. (77)	6 Fri. .	9789-3787	84-4037	267-9020	4055
21 Mar. (80)	3 Tues. .	18 59 7	8 Mar. (67)	4 Wed. .	3-7335	967-9394	239-8167	4056
22 Mar. (81)	5 Thur. .	1 11 16	26 Feb. (57)	2 Mon. .	218-0884	851-4750	211-7312	4057
21 Mar. (81)	6 Fri. .	7 23 25	16 Mar. (76)	1 Sun. .	252-7708	787-4685	263-0416	4058
21 Mar. (80)	0 Sat. .	13 35 34	5 Mar. (64)	5 Thur. .	128-4936	634-7125	232-2184	4059
21 Mar. (80)	1 Sun. .	19 47 43	22 Feb. (53)	2 Mon. .	4-2164	481-9566	201-3952	4060
22 Mar. (81)	3 Tues. .	1 59 52	13 Mar. (72)	1 Sun. .	38-8988	417-9502	252-7056	4061
21 Mar. (81)	4 Wed. .	8 12 1	1 Mar. (61)	5 Thur. .	9914-6217	265-1942	221-8823	4062
21 Mar. (80)	5 Thur. .	14 24 10	20 Mar. (79)	4 Wed. .	9949-3040	201-1877	273-1828	4063
21 Mar. (80)	6 Fri. .	20 36 19	9 Mar. (68)	1 Sun. .	9825-0269	48-5316	242-3696	4064
22 Mar. (81)	1 Sun. .	2 48 28	27 Feb. (58)	6 Fri. .	39-3817	931-9674	214-2842	4065
21 Mar. (81)	2 Mon. .	9 0 37	17 Mar. (77)	5 Thur. .	74-0642	867-9608	265-5946	4066
21 Mar. (80)	3 Tues. .	15 12 46	7 Mar. (66)	3 Tues. .	288-4189	751-4956	237-5093	4067
21 Mar. (80)	4 Wed. .	21 24 55	24 Feb. (55)	0 Sat. .	164-1418	598-7406	206-6860	4068
22 Mar. (81)	6 Fri. .	3 37 4	15 Mar. (74)	6 Fri. .	198-8042	534-7341	257-9964	4069
21 Mar. (81)	0 Sat. .	9 49 13	3 Mar. (63)	3 Tues. .	74-5470	381-9782	227-1731	4070
21 Mar. (80)	1 Sun. .	16 1 22	21 Mar. (80)	1 Sun. .	9770-5974	281-6799	275-7458	4071
21 Mar. (80)	2 Mon. .	22 13 31	11 Mar. (70)	6 Fri. .	9984-9522	616-2156	247-6604	4072



TABLE

CONCURRENT YEAR.								Intercalated ( <i>adhika</i> ) and suppressed ( <i>kshaya</i> ) true lunar months.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
4073	894	1029	378	146-47	971-72	5 Prajāpati .	6 Aṅgiras .	5 Śrāvapa .
4074	895	1030	379	147-48	*972-73	6 Aṅgiras .	7 Śrīmukha .	...
4075	896	1031	380	148-49	973-74	7 Śrīmukha .	8 Bhāva .	...
4076	897	1032	381	149-50	974-75	8 Bhāva .	9 Yuvan .	4 Āshādha .
4077	898	1033	382	150-51	975-76	9 Yuvan .	10 Dhātṛi .	...
4078	899	1034	383	151-52	*976-77	10 Dhātṛi .	11 Īvara .	...
4079	900	1035	384	152-53	977-78	11 Īvara .	12 Bahudhānya .	2 Vaiśākha .
4080	901	1036	385	153-54	978-79	12 Bahudhānya .	13 Pramāthin .	...
4081	902	1037	386	154-55	979-80	13 Pramāthin .	14 Vikrama .	6 Bhādrapada
4082	903	1038	387	155-56	*980-81	14 Vikrama .	15 Vṛisha .	...
4083	904	1039	388	156-57	981-82	15 Vṛisha .	16 Chitrabhānu .	...
4084	905	1040	389	157-58	982-83	16 Chitrabhānu .	17 Subhānu .	4 Āshādha†† .
4085	906	1041	390	158-59	983-84	17 Subhānu .	18 Tārāpa .	...
4086	907	1042	391	159-60	*984-85	18 Tārāpa .	19 Pārthiva .	...
4087	908	1043	392	160-61	985-86	19 Pārthiva .	20 Vyaya .	3 Jyēṣṭha .
4088	909	1044	393	161-62	986-87	20 Vyaya .	21 Sarvajit .	...
4089	910	1045	394	162-63	987-88	21 Sarvajit .	22 Sarvadhārin .	...
4090	911	1046	395	163-64	*988-89	22 Sarvadhārin .	23 Virōdhin .	1 Chaitra .
4091	912	1047	396	164-65	989-90	23 Virōdhin .	24 Vikrita† .	...
4092	913	1048	397	165-66	990-91	24 Vikrita .	26 Nandana .	5 Śrāvapa .
4093	914	1049	398	166-67	991-92	25 Khara .	27 Vijaya .	...
4094	915	1050	399	167-68	*992-93	26 Nandana .	28 Jaya .	...
4095	916	1051	400	168-69	993-94	27 Vijaya .	29 Mahamatha .	4 Āshādha .
4096	917	1052	401	169-70	994-95	28 Jaya .	30 Durmukha .	...
4097	918	1053	402	170-71	995-96	29 Mahamatha .	31 Hṛsmabamba .	...

† 25 Khara was suppressed in the north.

†† See "Remarks" on page preceding the Table.

LXXXII—Contd.

COMMENCEMENT OF THE								
SOLAR YEAR			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).					Kali.
Day and month A. D.	Week-day.	Time of true Mēsha-sam-krānti.	Day and month A. D.	Week-day.	a	b	c	
18	14	17	19	20	23	24	25	1
		H. M. S.						
22 Mar. (81)	4 Wed.	4 25 40	28 Feb. (59)	3 Tues.	9860-6751	12-4597	217-8372	4073
21 Mar. (81)	5 Thur.	10 37 49	18 Mar. (78)	2 Mon.	9895-8574	948-4532	268-0475	4074
21 Mar. (80)	6 Fri.	16 49 58	8 Mar. (67)	0 Sat.	109-7123	831-9889	240-0622	4075
21 Mar. (80)	0 Sat.	23 2 7	25 Feb. (56)††	4 Wed.	9985-4352	679-2329	209-2390	4076
22 Mar. (81)	2 Mon.	5 14 16	16 Mar. (75)	3 Tues.	20-1175	615-2264	260-5494	4077
21 Mar. (81)	3 Tues.	11 26 25	4 Mar. (64)	0 Sat.	9895-8404	462-4704	229-7201	4078
21 Mar. (80)	4 Wed.	17 38 34	21 Feb. (52)	4 Wed.	9771-5032	309-7145	198-9029	4079
21 Mar. (80)	5 Thur.	23 50 43	12 Mar. (71)	3 Tues.	9806-2456	245-7080	250-2134	4080
22 Mar. (81)	0 Sat.	6 2 52	2 Mar. (61)	1 Sun.	20-6004	129-2437	222-1279	4081
21 Mar. (81)	1 Sun.	12 15 1	20 Mar. (80)	0 Sat.	55-2828	65-2372	273-4383	4082
21 Mar. (80)	2 Mon.	18 27 10	9 Mar. (68)	4 Wed.	9931-0057	912-4811	242-6151	4083
22 Mar. (81)	4 Wed.	0 39 19	27 Feb. (58)	2 Mon.	145-3605	796-0169	214-5298	4084
22 Mar. (81)	5 Thur.	6 51 28	18 Mar. (77)	1 Sun.	180-0429	732-0103	265-8401	4085
21 Mar. (81)	6 Fri.	13 3 37	6 Mar. (66)	5 Thur.	55-7657	579-2544	235-0169	4086
21 Mar. (80)	0 Sat.	19 15 46	23 Feb. (54)	2 Mon.	9931-4886	426-4985	204-1937	4087
22 Mar. (81)	2 Mon.	1 27 55	11 Mar. (73)	1 Sun.	9906-1709	362-4919	255-5042	4088
22 Mar. (81)	3 Tues.	7 40 4	3 Mar. (62)	5 Thur.	9841-8938	209-7360	224-6809	4089
21 Mar. (81)	4 Wed.	13 52 13	21 Feb. (52)	3 Tues.	56-2487	93-2717	196-5954	4090
21 Mar. (80)	5 Thur.	20 4 22	11 Mar. (70)	2 Mon.	90-6310	29-2651	247-9059	409
22 Mar. (81)	0 Sat.	2 16 31	28 Feb. (59)	6 Fri.	9966-6538	876-5093	217-0828	4092
22 Mar. (81)	1 Sun.	8 28 40	19 Mar. (78)	5 Thur.	1-3372	812-5027	268-3931	4093
21 Mar. (81)	2 Mon.	14 40 49	8 Mar. (66)	3 Tues.	215-6911	696-0384	240-3077	4094
21 Mar. (80)	3 Tues.	20 52 58	25 Feb. (56)	0 Sat.	91-4130	543-2825	209-4845	4095
22 Mar. (81)	5 Thur.	3 5 6	16 Mar. (75)	6 Fri.	126-0053	479-2759	260-7950	4096
22 Mar. (81)	6 Fri.	9 17 15	5 Mar. (64)	3 Tues.	1-8192	326-5199	229-9717	4097

†† See "Remarks" on page preceding the Table.

TABLE

CONCURRENT YEAR.								Intercalated ( <i>adhika</i> ) and suppressed ( <i>kshaya</i> ) true lunar months.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
. 1	2	3	3a	4	5	6	7	8
4098	919	1054	403	171-72	*996-97	30 Durmukha .	32 Vilamba .	2 Vaiśākha .
4099	920	1055	404	172-73	997-98	31 Hēmalamba .	33 Vikārin .	...
4100	921	1056	405	173-74	998-99	32 Vilamba .	34 Śārvarin .	6 Bhādrapada
4101	922	1057	406	174-75	999-1000	33 Vikārin .	35 Plava .	...
4102	923	1058	407	175-76	*1000-01	34 Śārvarin .	36 Śubhakṛit .	...
4103	924	1059	408	176-77	1001-02	35 Plava .	37 Śōbhana .	5 Śrāvapaṭ .
4104	925	1060	409	177-78	1002-03	36 Śubhakṛit .	38 Krōdhin .	...
4105	926	1061	410	178-79	1003-04	37 Śōbhana .	39 Viśvāvasu .	...
4106	927	1062	411	179-80	*1004-05	38 Krōdhin .	40 Parābhava .	3 Jyēsthā .
4107	928	1063	412	180-81	1005-06	39 Viśvāvasu .	41 Plavaṅga .	...
4108	929	1064	413	181-82	1006-07	40 Parābhava .	42 Kilaka .	{ 8 Kārttika 9 Māgadh:( <i>ksh.</i> ) }
4109	930	1065	414	182-83	1007-08	41 Plavaṅga .	43 Saumya .	1 Chaitra .
4110	931	1066	415	183-84	*1008-09	42 Kilaka .	44 Sādhārāṇa .	...
4111	932	1067	416	184-85	1009-10	43 Saumya .	45 Virōdhakṛit .	5 Śrāvāṇa .
4112	933	1068	417	185-86	1010-11	44 Sādhārāṇa .	46 Paridhāvin .	...
4113	934	1069	418	186-87	1011-12	45 Virōdhakṛit .	47 Pramādin .	...
4114	935	1070	419	187-88	*1012-13	46 Paridhāvin .	48 Ānanda .	4 Āshāḍha .
4115	936	1071	420	188-89	1013-14	47 Pramādin .	49 Rākshasa .	...
4116	937	1072	421	189-90	1014-15	48 Ānanda .	50 Anala .	...
4117	938	1073	422	190-91	1015-16	49 Rākshasa .	51 Piṅgala .	2 Vaiśākha .
4118	939	1074	423	191-92	*1016-17	50 Anala .	52 Kālayukta .	...
4119	940	1075	424	192-93	1017-18	51 Piṅgala .	53 Siddhārthin .	6 Bhādrapada
4120	941	1076	425	193-94	1018-19	52 Kālayukta .	54 Raudra .	...
4121	942	1077	426	194-95	1019-20	53 Siddhārthin .	55 Durmati .	...
4122	943	1078	427	195-96	*1020-21	54 Raudra .	56 Dundubhi .	5 Śrāvapaṭ .

† See "Remarks" on page preceding the Table.

LXXXII—Contd.

COMMENCEMENT OF THE								
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).					
Day and month A. D.	Week-day.	Time of true Mēsha-samkrānti.	Day and month A. D.	Week-day.	a	b	c	Kali.
13	14	17	19	20	23	24	25	1
		H. M. S.						
21 Mar. (81)	0 Sat. .	15 29 24	22 Feb. (53)	0 Sat. .	9877-5419	173-7640	199-1484	4098
21 Mar. (80)	1 Sun. .	21 41 33	12 Mar. (71)	6 Fri. .	9912-2243	109-7575	251-4589	4099
22 Mar. (81)	3 Tues. .	3 53 42	2 Mar. (61)	4 Wed. .	126-5792	993-2933	222-3735	4100
22 Mar. (81)	4 Wed. .	10 5 51	21 Mar. (80)	3 Tues. .	161-2616	929-2867	273-6618	4101
21 Mar. (81)	5 Thur. .	16 18 0	9 Mar. (69)	0 Sat. .	36-9845	776-5307	242-8385	4102
21 Mar. (80)	6 Fri. .	22 30 9	27 Feb. (58)	5 Thur. .	251-3393	660-0664	214-7531	4103
22 Mar. (81)	1 Sun. .	4 42 18	17 Mar. (76)	3 Tues. .	9947-3897	559-7683	263-3257	4104
22 Mar. (81)	2 Mon. .	10 54 27	6 Mar. (65)	0 Sat. .	9823-1125	407-0122	232-5025	4105
21 Mar. (81)	3 Tues. .	17 6 36	24 Feb. (55)	5 Thur. .	37-4674	290-5480	204-4171	4106
21 Mar. (80)	4 Wed. .	23 18 45	13 Mar. (72)	3 Tues. .	9733-5177	190-2498	253-9897	4107
22 Mar. (81)	6 Fri. .	5 30 54	3 Mar. (62)	1 Sun. .	9947-8726	73-7855	224-9042	4108
22 Mar. (81)	0 Sat. .	11 43 3	21 Feb. (52)	6 Fri. .	162-2275	957-3273	196-8189	4109
21 Mar. (81)	1 Sun. .	17 55 12	11 Mar. (71)	5 Thur. .	196-9097	893-3146	248-1293	4110
22 Mar. (81)	3 Tues. .	0 7 21	28 Feb. (59)	2 Mon. .	72-6326	740-5588	217-3061	4111
22 Mar. (81)	4 Wed. .	6 19 30	19 Mar. (78)	1 Sun. .	107-3140	676-5522	268-6164	4112
22 Mar. (81)	5 Thur. .	12 31 39	8 Mar. (67)	5 Thur. .	9983-0379	523-7962	237-7933	4113
21 Mar. (81)	6 Fri. .	18 43 48	25 Feb. (56)	2 Mon. .	9858-7607	371-0403	206-9701	4114
22 Mar. (81)	1 Sun. .	0 55 57	15 Mar. (74)	1 Sun. .	9893-4431	307-0338	258-2805	4115
22 Mar. (81)	2 Mon. .	7 8 6	4 Mar. (63)	5 Thur. .	9769-1600	154-2779	227-4572	4116
22 Mar. (81)	3 Tues. .	13 20 15	22 Feb. (53)	3 Tues. .	9983-5207	37-8125	199-3718	4117
21 Mar. (81)	4 Wed. .	19 32 24	12 Mar. (72)	2 Mon. .	18-2031	973-8070	250-6823	4118
22 Mar. (81)	6 Fri. .	1 44 33	2 Mar. (61)	0 Sat. .	232-5580	857-3427	222-5968	4119
22 Mar. (81)	0 Sat. .	7 56 42	21 Mar. (80)	6 Fri. .	267-2404	793-3362	273-9072	4120
22 Mar. (81)	1 Sun. .	14 8 51	10 Mar. (69)	3 Tues. .	142-9632	640-5802	243-0840	4121
21 Mar. (81)	2 Mon. .	20 21 0	27 Feb. (58)	0 Sat. .	18-6860	487-8243	212-2609	4122

TABLE

CONCURRENT YEAR.								Intercalated ( <i>adhika</i> ) and suppressed ( <i>kshaya</i> ) true lunar months.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
4123	944	1079	428	196-97	1021-22	55 Durmati .	57 Rudhirōdgārin	...
4124	945	1080	429	197-98	1022-23	56 Dundubhi .	58 Raktāksha .	...
4125	946	1081	430	198-99	1023-24	57 Rudhirōdgārin	59 Krōdhana .	3 Jyēshtha .
4126	947	1082	431	199-200	*1024-25	58 Raktāksha .	60 Kshaya .	...
4127	948	1083	432	200-01	1025-26	59 Krōdhana .	1 Prabhava	{ 7 Āsvina 10 Paus̥ha ( <i>ksh</i> ) }
4128	949	1084	433	201-02	1026-27	60 Kshaya .	2 Vibhava .	1 Chaitra .
4129	950	1085	434	202-03	1027-28	1 Prabhava .	3 Śukla .	...
4130	951	1086	435	203-04	*1028-29	2 Vibhava .	4 Pramōda .	5 Śrāvaṇa .
4131	952	1087	436	204-05	1029-30	3 Śukla .	5 Prajāpati .	...
4132	953	1088	437	205-06	1030-31	4 Pramōda .	6 Āngiras .	...
4133	954	1089	438	206-07	1031-32	5 Prajāpati .	7 Śrimukha .	3 Jyēshtha .
4134	955	1090	439	207-08	*1032-33	6 Āngiras .	8 Bhāva .	...
4135	956	1091	440	208-09	1033-34	7 Śrimukha .	9 Yuvaṇ .	...
4136	957	1092	441	209-10	1034-35	8 Bhāva .	10 Dhātṛi .	2 Vaiśākha .
4137	958	1093	442	210-11	1035-36	9 Yuvaṇ .	11 Iśvara .	...
4138	959	1094	443	211-12	*1036-37	10 Dhātṛi .	12 Bahudhānya .	6 Bhādrapada
4139	960	1095	444	212-13	1037-38	11 Iśvara .	13 Pramāthin .	...
4140	961	1096	445	213-14	1038-39	12 Bahudhānya .	14 Vikrama .	...
4141	962	1097	446	214-15	1039-40	13 Pramāthin .	15 Vṛisha .	4 Āshāḍha .
4142	963	1098	447	215-16	*1040-41	14 Vikrama .	16 Chitrabhānu .	...
4143	964	1099	448	216-17	1041-42	15 Vṛisha .	17 Subhānu .	...
4144	965	1100	449	217-18	1042-43	16 Chitrabhānu .	18 Tārana .	3 Jyēshtha .
4145	966	1101	450	218-19	1043-44	17 Subhānu .	19 Pārthiva .	...
4146	967	1102	451	219-20	*1044-45	18 Tārana .	20 Vyaya .	7 Āsvina .
4147	968	1103	452	220-21	1045-46	19 Pārthiva .	21 Sarvajit .	...

LXXXII—Contd.

COMMENCEMENT OF THE								
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).					Kali.
Day and month A. D.	Week-day.	Time of true Mēsha-saṅkṛānti.	Day and month A. D.	Week-day.	a	b	c	
13	14	17	19	20	23	24	25	1
		H. M. S.						
22 Mar. (81)	4 Wed. .	2 33 9	17 Mar. (76)	6 Fri. .	53-3685	423-8178	263-3090	4123
22 Mar. (81)	5 Thur. .	8 45 18	6 Mar. (65)	3 Tues. .	9929-0902	271-0618	232-7480	4124
22 Mar. (81)	6 Fri. .	14 57 27	23 Feb. (54)	0 Sat. .	9804-8141	118-3068	201-9238	4125
21 Mar. (81)	0 Sat. .	21 9 36	13 Mar. (73)	6 Fri. .	9839-4965	54-2993	253-2353	4126
22 Mar. (81)	2 Mon. .	3 21 45	3 Mar. (62)	4 Wed. .	53-8514	937-8350	225-0498	4127
22 Mar. (81)	3 Tues. .	9 33 54	21 Feb. (52)	2 Mon. .	268-2062	821-3708	197-0643	4128
22 Mar. (81)	4 Wed. .	15 46 3	12 Mar. (71)	1 Sun. .	302-8885	757-3642	248-3748	4129
21 Mar. (81)	5 Thur. .	21 58 12	29 Feb. (60)	5 Thur. .	178-6114	604-6082	217-5517	4130
22 Mar. (81)	0 Sat. .	4 10 21	19 Mar. (78)	4 Wed. .	213-2937	540-6018	268-8620	4131
22 Mar. (81)	1 Sun. .	10 22 30	8 Mar. (67)	1 Sun. .	89-0166	387-8457	238-0388	4132
22 Mar. (81)	2 Mon. .	16 34 39	25 Feb. (56)	5 Thur. .	9964-7395	235-0898	207-2156	4133
21 Mar. (81)	3 Tues. .	22 46 48	15 Mar. (75)	4 Wed. .	9999-4219	171-0833	258-5271	4134
22 Mar. (81)	5 Thur. .	4 58 57	4 Mar. (63)	1 Sun. .	9875-1447	17-3274	227-7028	4135
22 Mar. (81)	6 Fri. .	11 11 6	22 Feb. (53)	6 Fri. .	89-4995	901-8631	199-6173	4136
22 Mar. (81)	0 Sat. .	17 23 5	13 Mar. (72)	5 Thur. .	124-1819	837-8565	250-4278	4137
21 Mar. (81)	1 Sun. .	23 35 24	1 Mar. (61)	2 Mon. .	9999-9048	685-1006	219-6046	4138
22 Mar. (81)	3 Tues. .	5 47 33	20 Mar. (79)	1 Sun. .	34-5871	621-0940	271-4150	4139
22 Mar. (81)	4 Wed. .	11 59 42	9 Mar. (68)	5 Thur. .	9910-3100	468-3381	239-5919	4140
22 Mar. (81)	5 Thur. .	18 11 50	26 Feb. (57)	2 Mon. .	9786-0329	315-5822	209-7686	4141
22 Mar. (82)	0 Sat. .	0 23 59	16 Mar. (76)	1 Sun. .	9820-7152	251-5756	261-0791	4142
22 Mar. (81)	1 Sun. .	6 36 8	6 Mar. (65)	6 Fri. .	35-0700	145-1113	232-9936	4143
22 Mar. (81)	2 Mon. .	12 48 17	23 Feb. (54)	3 Tues. .	9910-7929	982-3553	202-1704	4144
22 Mar. (81)	3 Tues. .	19 9 26	14 Mar. (73)	2 Mon. .	9945-4753	918-3478	253-4808	4145
22 Mar. (82)	5 Thur. .	1 12 35	3 Mar. (63)	0 Sat. .	159-8301	801-8845	225-3953	4146
22 Mar. (81)	6 Fri. .	7 24 44	22 Mar. (81)	6 Fri. .	194-5125	727-8780	276-7058	4147

TABLE

CONCURRENT YEAR								Intercalated ( <i>adhika</i> ) and suppressed ( <i>kshaya</i> ) true lunar months.
Kali.	Śaka.	Chaitradī Vikrama.	Mēshādī solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
4148	969	1104	453	221-22	1046-47	20 Vyaya . .	22 Sarvadhārin .	...
4149	970	1105	454	222-23	1047-48	21 Sarvajit . .	23 Virōdhin . .	5 Śrāvaṇa .
4150	971	1106	455	223-24	*1048-49	22 Sarvadhārin .	24 Vikṛita . .	...
4151	972	1107	456	224-25	1049-50	23 Virōdhin . .	25 Khara . .	...
4152	973	1108	457	225-26	1050-51	24 Vikṛita . .	26 Nandana . .	3 Jyēshṭha .
4153	974	1109	458	226-27	1051-52	25 Khara . .	27 Vijaya . .	...
4154	975	1110	459	227-28	*1052-53	26 Nandana . .	28 Jaya . .	...
4155	976	1111	460	228-29	1053-54	27 Vijaya . .	29 Manmatha . .	2 Vaiśākha .
4156	977	1112	461	229-30	1054-55	28 Jaya . .	30 Durmukha . .	...
4157	978	1113	462	230-31	1055-56	29 Manmatha . .	31 Hēmalamba . .	6 Bhādrapada
4158	979	1114	463	231-32	*1056-57	30 Durmukha . .	32 Vilamba . .	...
4159	980	1115	464	232-33	1057-58	31 Hēmalamba . .	33 Vikārin . .	...
4160	981	1116	465	233-34	1058-59	32 Vilamba . .	34 Śārvarin . .	4 Āshāḍha .
4161	982	1117	466	234-35	1059-60	33 Vikārin . .	35 Plava . .	...
4162	983	1118	467	235-36	*1060-61	34 Śārvarin . .	36 Śubhakṛit . .	...
4163	984	1119	468	236-37	1061-62	35 Plava . .	37 Śōbhana . .	3 Jyēshṭha .
4164	985	1120	469	237-38	1062-63	36 Śubhakṛit . .	38 Krōdhin . .	...
4165	986	1121	470	238-39	1063-64	37 Śōbhana . .	39 Viśvāvasu . .	7 Āsāṣina
4166	987	1122	471	239-40	*1064-65	38 Krōdhin . .	40 Parābhava . .	...
4167	988	1123	472	240-41	1065-66	39 Viśvāvasu . .	41 Plavaṅga . .	...
4168	989	1124	473	241-42	1066-67	40 Parābhava . .	42 Kīlaka . .	5 Śrāvaṇa
4169	990	1125	474	242-43	1067-68	41 Plavaṅga . .	43 Saumya . .	...
4170	991	1126	475	243-44	*1068-69	42 Kīlaka . .	44 Sādhāraṇa . .	...
4171	992	1127	476	244-45	1069-70	43 Saumya . .	45 Virōdhakṛit . .	3 Jyēshṭha .
4172	993	1128	477	245-46	1070-71	44 Sādhāraṇa . .	46 Paridhāvin . .	...

TABLE II—Contd.

COMMENCEMENT OF THE									Kali.
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).						
Day and month A. D.	Week-day.	Time of true Māha-samkrānti.	Day and month, A. D.	Week-day.	a	b	c		
13	14	17	19	20	23	24	25	1	
22 Mar. (81)	0 Sat. .	H. M. S. 13 36 53	11 Mar. (70)	3 Tues. .	70-2354	585-1221	245-8826	4148	
22 Mar. (81)	1 Sun. .	19 49 2	28 Feb. (59)	0 Sat. .	9945-9581	432-3661	215-0594	4149	
22 Mar. (82)	3 Tues. .	2 1 11	18 Mar. (78)	6 Fri. .	9980-6406	368-3596	266-3697	4150	
22 Mar. (81)	4 Wed. .	8 13 20	7 Mar. (66)	3 Tues. .	9856-3634	215-6036	235-5466	4151	
22 Mar. (81)	5 Thur. .	14 25 29	25 Feb. (56)	1 Sun. .	70-7183	99-1393	207-7536	4152	
22 Mar. (81)	6 Fri. .	20 37 38	16 Mar. (75)	0 Sat. .	105-4006	35-1328	258-7716	4153	
22 Mar. (82)	1 Sun. .	2 49 47	4 Mar. (64)	4 Wed. .	9981-1235	882-3769	227-9483	4154	
22 Mar. (81)	2 Mon. .	9 1 56	22 Feb. (53)	2 Mon. .	195-4783	767-9126	199-8629	4155	
22 Mar. (81)	3 Tues. .	15 14 5	13 Mar. (72)	1 Sun. .	230-1606	701-9061	251-1734	4156	
22 Mar. (81)	4 Wed. .	21 26 14	2 Mar. (61)	5 Thur. .	105-3835	549-1501	220-3501	4157	
22 Mar. (82)	6 Fri. .	3 38 23	20 Mar. (80)	4 Wed. .	140-5659	485-1435	271-6805	4158	
22 Mar. (81)	0 Sat. .	9 50 32	9 Mar. (68)	1 Sun. .	16-2888	333-3876	240-8375	4159	
22 Mar. (81)	1 Sun. .	16 2 41	26 Feb. (57)	5 Thur. .	9892-0116	179-6317	210-0142	4160	
22 Mar. (81)	2 Mon. .	22 14 50	17 Mar. (76)	4 Wed. .	9926-6940	115-6452	261-3246	4161	
22 Mar. (82)	4 Wed. .	4 26 59	6 Mar. (66)	2 Mon. .	141-0488	999-1608	233-2391	4162	
22 Mar. (81)	5 Thur. .	10 39 8	23 Feb. (54)	6 Fri. .	16-7716	856-4049	202-4159	4163	
22 Mar. (81)	6 Fri. .	16 51 17	14 Mar. (73)	5 Thur. .	51-4540	782-2983	253-7264	4164	
22 Mar. (81)	0 Sat. .	23 3 26	4 Mar. (63)	3 Tues. .	265-8089	665-9341	225-6409	4165	
22 Mar. (82)	2 Mon. .	5 15 35	21 Mar. (81)	1 Sun. .	9961-8593	565-6363	274-2135	4166	
22 Mar. (81)	3 Tues. .	11 27 44	10 Mar. (69)	5 Thur. .	9837-5821	412-8799	243-3903	4167	
22 Mar. (81)	4 Wed. .	17 39 53	28 Feb. (59)	3 Tues. .	51-9369	296-4157	215-3050	4168	
22 Mar. (81)	5 Thur. .	23 52 2	18 Mar. (77)	1 Sun. .	9747-9874	196-1174	263-8775	4169	
22 Mar. (82)	0 Sat. .	6 4 11	7 Mar. (67)	6 Fri. .	9962-3421	79-6532	235-7921	4170	
22 Mar. (81)	1 Sun. .	12 16 20	25 Feb. (56)	4 Wed. .	176-6970	963-1888	207-7067	4171	
22 Mar. (81)	2 Mon. .	18 28 29	16 Mar. (75)	3 Tues. .	211-3794	899-1823	259-0172	4172	



TABLE

CONCURRENT YEAR.								Intercalated ( <i>adhika</i> ) and suppressed ( <i>kshaya</i> ) true lunar months.
Kali.	Saka.	Chaitrādi Vikram.	Mēshadi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
4173	994	1129	478	246-47	1071-72	45 Virōdhakṛit .	47 Pramādin .	{ 8 Kārttika . 9 Mārgaśīrṣa ( <i>ksh</i> ) }
4174	995	1130	479	247-48	*1072-73	46 Paridhāvin .	48 Ānanda .	2 Vaiśākha .
4175	996	1131	480	248-49	1073-74	47 Pramādin .	49 Rākshasa .	...
4176	997	1132	481	249-50	1074-75	48 Ānanda .	50 Anala† .	6 Bhādrapada .
4177	998	1133	482	250-51	1075-76	49 Rākshasa .	52 Kālayukta .	...
4178	999	1134	483	251-52	*1076-77	50 Anala .	53 Siddhārthin .	...
4179	1000	1135	484	252-53	1077-78	51 Piṅgala .	54 Raudra .	4 Āshāḍha .
4180	1001	1136	485	253-54	1078-79	52 Kālayukta .	55 Durmati .	...
4181	1002	1137	486	254-55	1079-80	53 Siddhārthin .	56 Dundubhī .	...
4182	1003	1138	487	255-56	*1080-81	54 Raudra .	57 Rudhīrōdgārīn .	3 Jyēṣṭha .
4183	1004	1139	488	256-57	1081-82	55 Durmati .	58 Raktāksha .	...
4184	1005	1140	489	257-58	1082-83	56 Dundubhī .	59 Krōdhana .	7 Āsāḍha .
4185	1006	1141	490	258-59	1083-84	57 Rudhīrōdgārīn .	60 Kshaya .	...
4186	1007	1142	491	259-60	*1084-85	58 Raktāksha .	1 Prabhava .	...
4187	1008	1143	492	260-61	1085-86	59 Krōdhana .	2 Vibhava .	5 Śrāvaṇa .
4188	1009	1144	493	261-62	1086-87	60 Kshaya .	3 Śukla .	...
4189	1010	1145	494	262-63	1087-88	1 Prabhava .	4 Pramōda .	...
4190	1011	1146	495	263-64	*1088-89	2 Vibhava .	5 Prajāpati .	3 Jyēṣṭha .
4191	1012	1147	496	264-65	1089-90	3 Śukla .	6 Āngīras .	...
4192	1013	1148	497	265-66	1090-91	4 Pramōda .	7 Śrīmukha .	{ 8 Kārttika . 10 Pausa ( <i>ksh</i> ) }
4193	1014	1149	498	266-67	1091-92	5 Prajāpati .	8 Bhāva .	1 Chaitra .
4194	1015	1150	499	267-68	*1092-93	6 Āngīras .	9 Yuvān .	...
4195	1016	1151	500	268-69	1093-94	7 Śrīmukha .	10 Dhātṛi .	6 Bhādrapada .
4196	1017	1152	501	269-70	1094-95	8 Bhāva .	11 Īvara .	...
4197	1018	1153	502	270-71	1095-96	9 Yuvān .	12 Bahudhānya .	...

† 51 Piṅgala was suppressed in the north.

LXXXII—Contd.

COMMENCEMENT OF THE								
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).					Kali.
Day and month A. D.	Week-day.	Time of true Mēsha-sam-krānti.	Day and month A. D.	Week-day.	a	b	c	
13	14	17	19	20	23	24	25	
		H. M. S.						
23 Mar. (82)	4 Wed.	0 40 38	5 Mar. (64)	0 Sat.	87-1023	746-4264	228-1939	4173
22 Mar. (82)	5 Thur.	6 52 47	22 Feb. (53)	4 Wed.	9962-8251	593-6705	197-3706	4174
22 Mar. (81)	6 Fri.	18 4 56	12 Mar. (71)	3 Tues.	9997-5674	530-6639	248-6811	4175
22 Mar. (81)	0 Sat.	19 17 5	1 Mar. (60)	0 Sat.	9873-2303	376-9079	217-8580	4176
23 Mar. (82)	2 Mon.	1 29 14	20 Mar. (79)	6 Fri.	9907-9126	312-9015	269-1683	4177
22 Mar. (82)	3 Tues.	7 41 23	8 Mar. (69)	3 Tues.	9783-6355	160-1454	238-3451	4178
22 Mar. (81)	4 Wed.	13 53 32	26 Feb. (57)	1 Sun.	9997-9904	43-6812	210-2507	4179
22 Mar. (81)	5 Thur.	20 5 41	17 Mar. (76)	0 Sat.	33-6726	979-6747	261-5702	4180
23 Mar. (82)	0 Sat.	2 17 50	7 Mar. (66)	5 Thur.	247-0275	863-2103	233-4847	4181
22 Mar. (82)	1 Sun.	8 29 59	24 Feb. (55)	2 Mon.	122-7504	710-4544	202-6614	4182
22 Mar. (81)	2 Mon.	14 42 8	14 Mar. (73)	1 Sun.	157-4328	646-4478	253-9719	4183
22 Mar. (81)	3 Tues.	20 54 17	3 Mar. (62)	5 Thur.	33-1557	493-6919	223-1487	4184
23 Mar. (82)	5 Thur.	3 6 26	22 Mar. (81)	4 Wed.	67-8380	429-6854	274-4591	4185
22 Mar. (82)	6 Fri.	9 18 35	10 Mar. (70)	1 Sun.	9943-5609	276-9294	245-6358	4186
22 Mar. (81)	0 Sat.	15 30 43	27 Feb. (58)	5 Thur.	9819-2837	124-1735	212-8127	4187
22 Mar. (81)	1 Sun.	21 42 52	18 Mar. (77)	4 Wed.	9853-9661	60-1669	264-1231	4188
23 Mar. (82)	3 Tues.	3 55 1	8 Mar. (67)	2 Mon.	68-3209	943-8027	236-0377	4189
22 Mar. (82)	4 Wed.	10 7 10	26 Feb. (57)	0 Sat.	283-6758	827-2383	207-9522	4190
22 Mar. (81)	5 Thur.	16 19 19	16 Mar. (75)	6 Fri.	317-3582	763-2318	259-2627	4191
22 Mar. (81)	6 Fri.	22 31 28	5 Mar. (64)	3 Tues.	193-0810	610-4759	228-4395	4192
23 Mar. (82)	1 Sun.	4 43 37	22 Feb. (53)	0 Sat.	68-8039	457-7200	197-6162	4193
22 Mar. (82)	2 Mon.	10 55 46	12 Mar. (72)	6 Fri.	108-4862	393-7134	248-9266	4194
22 Mar. (81)	3 Tues.	17 7 55	1 Mar. (60)	3 Tues.	9979-2090	240-9577	218-1035	4195
22 Mar. (81)	4 Wed.	23 20 4	20 Mar. (79)	2 Mon.	13-8914	176-9509	269-4139	4196
23 Mar. (82)	6 Fri.	5 32 13	9 Mar. (68)	6 Fri.	9899-6143	24-1949	238-5907	4197

TABLE

CONCURRENT YEAR.								Intercalated (adhika) and suppressed (kshaya) true lunar months.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
4198	1019	1154	503	271-72	*1096-97	10 Dhātṛi . .	13 Pramāthin .	4 Āshāḍha .
4199	1020	1155	504	272-73	1097-98	11 Īvara . .	14 Vikrama .	...
4200	1021	1156	505	273-74	1098-99	12 Bahudhānya .	15 Vṛisha . .	...
4201	1022	1157	506	274-75	1099-1100	13 Pramāthin .	16 Chitrabhānu .	3 Jyēshṭha .
4202	1023	1158	507	275-76	*1100-01	14 Vikrama .	17 Subhānu .	...
4203	1024	1159	508	276-77	1101-02	15 Vṛisha . .	18 Tārāṇa . .	7 Āvina .
4204	1025	1160	509	277-78	1102-03	16 Chitrabhānu .	19 Pārthiva .	...
4205	1026	1161	510	278-79	1103-04	17 Subhānu .	20 Vyaya . .	...
4206	1027	1162	511	279-80	*1104-05	18 Tārāṇa . .	21 Sarvajit .	4 Āshāḍha .
4207	1028	1163	512	280-81	1105-06	19 Pārthiva . .	22 Sarvadhārin .	...
4208	1029	1164	513	281-82	1106-07	20 Vyaya . .	23 Virōdhin .	...
4209	1030	1165	514	282-83	1107-08	21 Sarvajit .	24 Vikṛita . .	3 Jyēshṭha .
4210	1031	1166	515	283-84	*1108-09	22 Sarvadhārin .	25 Khara . .	...
4211	1032	1167	516	284-85	1109-10	23 Virōdhin .	26 Nandana .	{ 8 Kārttika 10 Pausa (ksh) 12 Phālguna }
4212	1033	1168	517	285-86	1110-11	24 Vikṛita . .	27 Vijaya . .	
4213	1034	1169	518	286-87	1111-12	25 Khara . .	28 Jaya . .	
4214	1035	1170	519	287-88	*1112-13	26 Nandana .	29 Maṇmatha .	5 Śrāvāṇa .
4215	1036	1171	520	288-89	1113-14	27 Vijaya . .	30 Durmukha .	...
4216	1037	1172	521	289-90	1114-15	28 Jaya . .	31 Hēmalamba .	...
4217	1038	1173	522	290-91	1115-16	29 Maṇmatha .	32 Vilamba . .	4 Āshāḍha .
4218	1039	1174	523	291-92	*1116-17	30 Durmukha .	33 Vikārin .	...
4219	1040	1175	524	292-93	1117-18	31 Hēmalamba .	34 Śārvarin .	...
4220	1041	1176	525	293-94	1118-19	32 Vilamba .	35 Plava . .	2 Vaiśākha .
4221	1042	1177	526	294-95	1119-20	33 Vikārin .	36 Subhākrit .	...
4222	1043	1178	527	295-96	*1120-21	34 Śārvarin .	37 Śobhana .	6 Bhādrapada .

LXXXII.—Contd.

COMMENCEMENT OF THE									Kali.
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).						
Day and month A. D.	Week-day.	Time of true Mēsha-samkrānti.	Day and month A. D.	Week-day.	a	b	c		
13	14	17	19	20	23	24	25	1	
		H. M. S.							
22 Mar. (82)	0 Sat.	11 44 22	27 Feb. (58)	4 Wed.	103-9691	907-7307	210-5052	4198	
22 Mar. (81)	1 Sun.	17 56 31	17 Mar. (76)	3 Tues.	138-6515	843-7242	261-8157	4199	
23 Mar. (82)	3 Tues.	0 8 40	6 Mar. (65)	0 Sat.	14-3744	690-9683	230-9925	4200	
23 Mar. (82)	4 Wed.	6 20 49	24 Feb. (55)	5 Thur.	228-7291	574-5038	202-8848	4201	
22 Mar. (82)	5 Thur.	12 32 58	13 Mar. (73)	3 Tues.	9924-7795	474-2057	251-4575	4202	
22 Mar. (81)	6 Fri.	18 45 7	2 Mar. (61)	0 Sat.	9800-5024	321-4497	20-6342	4203	
23 Mar. (82)	1 Sun.	0 57 16	21 Mar. (80)	6 Fri.	9835-1847	257-4432	271-9446	4204	
23 Mar. (82)	2 Mon.	7 9 25	11 Mar. (70)	4 Wed.	49-5396	140-9788	243-8592	4205	
22 Mar. (82)	3 Tues.	13 21 34	28 Feb. (59)	1 Sun.	9925-2624	988-2229	213-0361	4206	
22 Mar. (81)	4 Wed.	19 33 43	18 Mar. (77)	0 Sat.	9959-9448	924-2154	264-3464	4207	
23 Mar. (82)	6 Fri.	1 45 52	8 Mar. (67)	5 Thur.	174-2996	807-7521	236-2610	4208	
23 Mar. (82)	0 Sat.	7 58 1	25 Feb. (56)	2 Mon.	50-0225	654-9962	205-4387	4209	
22 Mar. (82)	1 Sun.	14 10 10	15 Mar. (75)	1 Sun.	84-7048	590-9896	256-7483	4210	
22 Mar. (81)	2 Mon.	20 22 19	4 Mar. (63)	5 Thur.	9960-4277	438-2337	225-9250	4211	
23 Mar. (82)	4 Wed.	2 34 28	23 Mar. (82)	4 Wed.	9995-1101	374-2271	277-2354	4212	
23 Mar. (82)	5 Thur.	8 46 37	12 Mar. (71)	1 Sun.	9870-8330	221-4712	246-4122	4213	
22 Mar. (82)	6 Fri.	14 58 46	1 Mar. (61)	6 Fri.	85-1877	105-0069	218-3269	4214	
22 Mar. (81)	0 Sat.	21 10 55	20 Mar. (79)	5 Thur.	119-8701	41-0004	269-6373	4215	
23 Mar. (82)	2 Mon.	3 23 4	9 Mar. (68)	2 Mon.	9995-5930	888-3444	238-8140	4216	
23 Mar. (82)	3 Tues.	9 35 13	27 Feb. (58)	0 Sat.	209-9478	771-7891	210-7286	4217	
22 Mar. (82)	4 Wed.	15 47 22	17 Mar. (77)	6 Fri.	244-6302	707-7736	262-0391	4218	
22 Mar. (81)	5 Thur.	21 59 31	6 Mar. (65)	3 Tues.	120-3530	555-0176	231-2158	4219	
23 Mar. (82)	0 Sat.	4 11 40	23 Feb. (54)	0 Sat.	9996-0759	402-2617	200-3925	4220	
23 Mar. (82)	1 Sun.	10 23 49	14 Mar. (73)	6 Fri.	30-7582	338-2552	251-7030	4221	
22 Mar. (82)	2 Mon.	16 35 58	2 Mar. (62)	3 Tues.	9906-4811	185-4993	220-8798	4222	

TABLE

CONCURRENT YEAR.								Intercalated ( <i>adhika</i> ) and suppressed ( <i>kshaya</i> ) true lunar months.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshadi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
4223	1044	1179	528	296-97	1121-22	35 Plava .	38 Krōdhin .	...
4224	1045	1180	529	297-98	1122-23	36 Śubhakrit .	39 Viśvāvasu .	...
4225	1046	1181	530	298-99	1123-24	37 Śōbhana .	40 Parābhava .	4 Āshāḍha .
4226	1047	1182	531	299-300	*1124-25	38 Krōdhin .	41 Plavaṅga .	...
4227	1048	1183	532	300-01	1125-26	39 Viśvāvasu .	42 Kilaka .	...
4228	1049	1184	533	301-02	11 0-27	40 Parābhava .	43 Saumya .	3 Jyēṣṭha .
4229	1050	1185	534	302-03	1127-28	41 Plavaṅga .	44 Sādhāraṇa .	...
4230	1051	1186	535	303-04	*1128-29	42 Kilaka .	45 Virōdhakrit .	12 Phālguna† .
4231	1052	1187	536	304-05	1129-30	43 Saumya .	46 Paridhāvin .	...
4232	1053	1188	537	305-06	1130-31	44 Sādhāraṇa .	47 Pramādin .	...
4233	1054	1189	538	306-07	1131-32	45 Virōdhakrit .	48 Ānanda .	5 Śrāvaṇa .
4234	1055	1190	539	307-08	*1132-33	46 Paridhāvin .	49 Rākṣasa .	...
4235	1056	1191	540	308-09	1133-34	47 Pramādin .	50 Anala .	...
4236	1057	1192	541	309-10	1134-35	48 Ānanda .	51 Piṅgala .	4 Āshāḍha .
4237	1058	1193	542	310-11	1135-36	49 Rākṣasa .	52 Kālayukta .	...
4238	1059	1194	543	311-12	*1136-37	50 Anala .	53 Siddhārthim .	...
4239	1060	1195	544	312-13	1137-38	51 Piṅgala .	54 Raudra .	2 Vaiśākha .
4240	1061	1196	545	313-14	1138-39	52 Kālayukta .	55 Durmati .	...
4241	1062	1197	546	314-15	1139-40	53 Siddhārthim .	56 Dundubhi .	6 Bhādrapada .
4242	1063	1198	547	315-16	*1140-41	54 Raudra .	57 Rudhīrōdgārin .	...
4243	1064	1199	548	316-17	1141-42	55 Durmati .	58 Raktākṣa .	...
4244	1065	1200	549	317-18	1142-43	56 Dundubhi .	59 Krōdhana .	4 Āshāḍha .
4245	1066	1201	550	318-19	1143-44	57 Rudhīrōdgārin .	60 Kṣaya .	...
4246	1067	1202	551	319-20	*1144-45	58 Raktākṣa .	1 Prabhava .	...
4247	1068	1203	552	320-21	1145-46	59 Krōdhana .	2 Vibhava .	3 Jyēṣṭha .

† See "Remarks" on page preceding the Table.

LXXXII—Contd.

COMMENCEMENT OF THE								
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).					Kali.
Day and month A. D.	Week-day.	Time of true Mēsha-samkrānti.	Day and month A. D.	Week-day.	a	b	c	
13	14	17	19	20	23	24	25	
		H. M. S.						1
22 Mar. (81)	3 Tues.	22 48 7	21 Mar. (80)	2 Mon.	9941-1635	121-4928	272-1902	4223
23 Mar. (82)	5 Thur.	5 0 16	11 Mar. (70)	0 Sat.	155-5183	5-0284	244-1047	4224
23 Mar. (82)	6 Fri.	11 12 25	28 Feb. (59)	4 Wed.	31-2411	852-2724	213-2826	4225
22 Mar. (82)	0 Sat.	17 24 34	18 Mar. (78)	3 Tues.	65-9236	788-2659	264-5920	4226
22 Mar. (81)	1 Sun.	23 36 43	8 Mar. (67)	1 Sun.	280-2784	671-8016	236-5066	4227
23 Mar. (82)	3 Tues.	5 48 52	25 Feb. (56)	5 Thur.	156-0012	519-0457	205-6833	4228
23 Mar. (82)	4 Wed.	12 1 1	15 Mar. (74)	3 Tues.	9852-0516	418-7475	254-2560	4229
22 Mar. (82)	5 Thur.	18 13 10	3 Mar. (63)	0 Sat.	9727-7745	265-9915	223-4328	4230
23 Mar. (82)	0 Sat.	0 25 19	22 Mar. (81)	6 Fri.	9762-4568	201-9851	274-7432	4231
23 Mar. (82)	1 Sun.	6 37 27	12 Mar. (71)	4 Wed.	9976-8117	85-5207	246-6577	4232
23 Mar. (82)	2 Mon.	12 49 36	2 Mar. (61)	2 Mon.	191-1665	969-0564	218-5724	4233
22 Mar. (82)	3 Tues.	19 1 45	20 Mar. (80)	1 Sun.	225-8489	905-0499	269-8828	4234
23 Mar. (82)	5 Thur.	1 13 54	9 Mar. (68)	5 Thur.	101-5717	752-2939	239-0596	4235
23 Mar. (82)	6 Fri.	7 26 3	26 Feb. (57)	2 Mon.	9977-2946	599-5380	208-2363	4236
23 Mar. (82)	0 Sat.	13 38 12	17 Mar. (76)	1 Sun.	11-9770	535-5314	259-5468	4237
22 Mar. (82)	1 Sun.	19 50 21	5 Mar. (65)	5 Thur.	9887-6999	382-7755	228-7236	4238
23 Mar. (82)	3 Tues.	2 2 30	22 Feb. (53)	2 Mon.	9763-4226	230-1095	197-9004	4239
23 Mar. (82)	4 Wed.	8 14 39	13 Mar. (72)	1 Sun.	9798-1050	166-0130	249-2108	4240
23 Mar. (82)	5 Thur.	14 26 48	3 Mar. (62)	6 Fri.	12-4599	49-5488	221-1253	4241
22 Mar. (82)	6 Fri.	20 38 57	21 Mar. (81)	5 Thur.	47-1422	985-5422	272-4358	4242
23 Mar. (82)	1 Sun.	2 51 6	11 Mar. (70)	3 Tues.	261-4971	869-0770	244-3503	4243
23 Mar. (82)	2 Mon.	9 3 15	28 Feb. (59)	0 Sat.	137-2199	716-3219	214-5272	4244
23 Mar. (82)	3 Tues.	15 15 24	19 Mar. (78)	6 Fri.	171-9024	652-3154	204-8375	4245
22 Mar. (82)	4 Wed.	21 27 33	7 Mar. (67)	3 Tues.	47-6251	499-5595	234-9143	4246
23 Mar. (82)	6 Fri.	3 39 42	24 Feb. (55)	0 Sat.	9923-3480	346-9035	203-1911	4247

TABLE

CONCURRENT YEAR.								Intercalated ( <i>adhika</i> ) and suppressed ( <i>kehaya</i> ) true lunar months.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
4248	1069	1204	553	321-22	1146-47	60 Keshaya .	3 Śukla .	{ 8 Kārttika 9 Mārgas: ( <i>keh</i> ) 12 Phālguna }
4249	1070	1205	554	322-23	1147-48	1 Prabhava .	4 Pramōda .	
4250	1071	1206	555	323-24	*1148-49	2 Vibhava .	5 Prajāpati .	
4251	1072	1207	556	324-25	1149-50	3 Śukla .	6 Āngiras .	...
4252	1073	1208	557	325-26	1150-51	4 Pramōda .	7 Śrīmukha .	5 Śrāvapa .
4253	1074	1209	558	326-27	1151-52	5 Prajāpati .	8 Bhāva .	...
4254	1075	1210	559	327-28	*1152-53	6 Āngiras .	9 Yuvan .	...
4255	1076	1211	560	328-29	1153-54	7 Śrīmukha .	10 Dhātṛi .	4 Āshāḍha .
4256	1077	1212	561	329-30	1154-55	8 Bhāva .	11 Īvara .	...
4257	1078	1213	562	330-31	1155-56	9 Yuvan .	12 Bahudhānya .	...
4258	1079	1214	563	331-32	*1156-57	10 Dhātṛi .	13 Pramāthin .	2 Vaiśākha .
4259	1080	1215	564	332-33	1157-58	11 Īvara .	14 Vikrama .	...
4260	1081	1216	565	333-34	1158-59	12 Bahudhānya .	15 Vṛisha .	6 Bhādrapada .
4261	1082	1217	566	334-35	1159-60	13 Pramāthin .	16 Chitrabhānu†	...
4262	1083	1218	567	335-36	*1160-61	14 Vikrama .	18 Tāraṇa .	...
4263	1084	1219	568	336-37	1161-62	15 Vṛisha .	19 Pārthiva .	4 Āshāḍha .
4264	1085	1220	569	337-38	1162-63	16 Chitrabhānu .	20 Vyaya .	...
4265	1086	1221	570	338-39	1163-64	17 Subhānu .	21 Sarvajit .	...
4266	1087	1222	571	339-40	*1164-65	18 Tāraṇa .	22 Sarvadhārin .	3 Jyēṣṭha .
4267	1088	1223	572	340-41	1165-66	19 Pārthiva .	23 Virōdhin .	{ 7 Āsvina 10 Pauṣa: ( <i>keh</i> ) 12 Phālguna }
4268	1089	1224	573	341-42	1166-67	20 Vyaya .	24 Vikṛita .	
4269	1090	1225	574	342-43	1167-68	21 Sarvajit .	25 Khara .	
4270	1091	1226	575	343-44	*1168-69	22 Sarvadhārin .	26 Nandana .	...
4271	1092	1227	576	344-45	1169-70	23 Virōdhin .	27 Vijaya .	5 Śrāvapa .
4272	1093	1228	577	345-46	1170-71	24 Vikṛita .	28 Jaya .	...

† 17 *Subhānu* was suppressed in the north.

LXXXII—Contd.

COMMENCEMENT OF THE								
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).					Kali.
Day and month A. D.	Week-day.	Time of true Mēsha-sath-krānti.	Day and month A. D.	Week-day.	a	b	c	
13	14	17	19	20	23	24	25	
		H. M. S.						1
23 Mar. (82)	0 Sat.	9 51 51	15 Mar. (74)	6 Fri.	9958-0304	282-7970	254-5016	4248
23 Mar. (82)	1 Sun.	16 4 0	4 Mar. (63)	3 Tues.	9833-7532	129-0410	223-6783	4249
22 Mar. (82)	2 Mon.	22 16 9	22 Mar. (82)	2 Mon.	9868-4356	66-0346	274-0887	4250
23 Mar. (82)	4 Wed.	4 28 18	12 Mar. (71)	0 Sat.	82-7905	949-5702	246-9033	4251
23 Mar. (82)	5 Thur.	10 40 27	2 Mar. (61)	5 Thur.	297-1453	833-1059	218-6180	4252
23 Mar. (82)	6 Fri.	16 52 36	21 Mar. (80)	4 Wed.	331-8276	769-0994	270-1283	4253
22 Mar. (82)	0 Sat.	23 4 45	9 Mar. (69)	1 Sun.	207-5505	616-3435	239-3051	4254
23 Mar. (82)	2 Mon.	5 16 54	26 Feb. (57)	5 Thur.	83-2734	463-5875	208-4819	4255
23 Mar. (82)	3 Tues.	11 29 3	16 Mar. (75)	3 Tues.	9779-3237	363-2894	257-0546	4256
23 Mar. (82)	4 Wed.	17 41 12	6 Mar. (65)	1 Sun.	9993-6786	246-8250	228-9691	4257
22 Mar. (82)	5 Thur.	23 53 21	23 Feb. (54)	5 Thur.	9869-4024	94-0691	198-1458	4258
23 Mar. (82)	0 Sat.	6 5 30	13 Mar. (72)	4 Wed.	9904-0838	30-0625	249-4563	4259
23 Mar. (82)	1 Sun.	12 17 39	3 Mar. (62)	2 Mon.	118-4386	913-5983	221-3709	4260
23 Mar. (82)	2 Mon.	18 29 48	22 Mar. (81)	1 Sun.	153-1210	849-5918	272-6813	4261
23 Mar. (83)	4 Wed.	0 41 57	10 Mar. (70)	5 Thur.	28-8439	696-8358	241-8581	4262
23 Mar. (82)	5 Thur.	6 54 6	27 Feb. (58)	2 Mon.	9904-5667	544-0799	211-0349	4263
23 Mar. (82)	6 Fri.	13 6 15	18 Mar. (77)	1 Sun.	9939-2491	480-0733	262-3454	4264
23 Mar. (82)	0 Sat.	19 18 24	7 Mar. (66)	5 Thur.	9814-9719	327-3173	231-5221	4265
23 Mar. (83)	2 Mon.	1 30 33	25 Feb. (56)	3 Tues.	29-3268	210-8530	203-4366	4266
23 Mar. (82)	3 Tues.	7 42 42	15 Mar. (74)	2 Mon.	64-0091	146-8465	255-7471	4267
23 Mar. (82)	4 Wed.	13 54 51	4 Mar. (63)	6 Fri.	9939-7320	994-0906	223-9239	4268
23 Mar. (82)	5 Thur.	20 7 0	23 Mar. (82)	5 Thur.	9974-4144	930-0840	275-2343	4269
23 Mar. (83)	0 Sat.	2 19 9	12 Mar. (72)	3 Tues.	188-7692	813-6158	247-1488	4270
23 Mar. (82)	1 Sun.	8 31 18	1 Mar. (60)	0 Sat.	64-4920	660-8638	216-3257	4271
23 Mar. (82)	2 Mon.	14 43 27	20 Mar. (79)	6 Fri.	99-1744	596-8573	267-6361	4272



TABLE

CONCURRENT YEAR.								Intercalated ( <i>adhika</i> ) and suppressed ( <i>kshaya</i> ) true lunar months.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A. D.	JOVIAN SĀMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8
4273	1094	1229	578	346-47	1171-72	25 Khara . .	29 Manmatha .	...
4274	1095	1230	579	347-48	*1172-73	26 Nandana . .	30 Durmukha .	4 Āshāḍha .
4275	1096	1231	580	348-49	1173-74	27 Vijaya . .	31 Hēmalamba .	...
4276	1097	1232	581	349-50	1174-75	28 Jaya . .	32 Vilamba .	...
4277	1098	1233	582	350-51	1175-76	29 Manmatha .	33 Vikārin .	2 Vaiśākha .
4278	1099	1234	583	351-52	*1176-77	30 Durmukha .	34 Śārvarin .	...
4279	1100	1235	584	352-53	1177-78	31 Hēmalamba .	35 Plava . .	6 Bhādrapada
4280	1101	1236	585	353-54	1178-79	32 Vilamba .	36 Śubhakṛit .	...
4281	1102	1237	586	354-55	1179-80	33 Vikārin .	37 Śobhana .	...
4282	1103	1238	587	355-56	*1180-81	34 Śārvarin .	38 Krōdhin .	4 Āshāḍha .
4283	1104	1239	588	356-57	1181-82	35 Plava . .	39 Viśvāvasu .	...
4284	1105	1240	589	357-58	1182-83	36 Śubhakṛit .	40 Parābhava .	...
4285	1106	1241	590	358-59	1183-84	37 Śobhana .	41 Plavaṅga .	2 Vaiśākha .
4286	1107	1242	591	359-60	*1184-85	38 Krōdhin .	42 Kilaka . .	...
4287	1108	1243	592	360-61	1185-86	39 Viśvāvasu .	43 Saumya .	6 Bhādrapada
4288	1109	1244	593	361-62	1186-87	40 Parābhava .	44 Sādhāraṇa .	...
4289	1110	1245	594	362-63	1187-88	41 Plavaṅga .	45 Virōdhakṛit .	...
4290	1111	1246	595	363-64	*1188-89	42 Kilaka . .	46 Paridhāvin .	5 Śrāvapa .
4291	1112	1247	596	364-65	1189-90	43 Saumya .	47 Pramādin .	...
4292	1113	1248	597	365-66	1190-91	44 Sādhāraṇa .	48 Ānanda .	...
4293	1114	1249	598	366-67	1191-92	45 Virōdhakṛit .	49 Rākhaṣa .	3 Jyēṣṭha .
4294	1115	1250	599	367-68	*1192-93	46 Paridhāvin .	50 Anaka . .	...
4295	1116	1251	600	368-69	1193-94	47 Pramādin .	51 Piṅgala .	...
4296	1117	1252	601	369-70	1194-95	48 Ānanda .	52 Kālayukta .	2 Vaiśākha .
4297	1118	1253	602	370-71	1195-96	49 Rākhaṣa .	53 Siddhārthīn .	...

LXXXII—Contd.

COMMENCEMENT OF THE								
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).					Kāli.
Day and month A. D.	Week-day.	Time of true Mēsha-samkrānti.	Day and month A. D.	Week-day.	a	b	c	
13	14	17	19	20	23	24	25	
		H. M. S.						1
23 Mar. (82)	3 Tues.	20 55 36	9 Mar. (86)	3 Tues.	9974-6973	444-1013	236-8129	4273
23 Mar. (83)	5 Thur.	3 7 45	26 Feb. (87)	0 Sat.	9850-6201	291-3454	205-9806	4274
23 Mar. (82)	6 Fri.	9 19 54	16 Mar. (76)	6 Fri.	9885-3025	227-3389	257-3001	4275
23 Mar. (82)	0 Sat.	15 32 3	6 Mar. (65)	4 Wed.	99-6574	110-8746	229-2147	4276
23 Mar. (82)	1 Sun.	21 44 11	23 Feb. (54)	1 Sun.	9975-3801	958-1187	198-1914	4277
23 Mar. (83)	3 Tues.	3 56 20	13 Mar. (73)	0 Sat.	10-0625	894-1120	249-7018	4278
23 Mar. (82)	4 Wed.	10 8 29	3 Mar. (62)	5 Thur.	224-4174	777-6478	221-6164	4279
23 Mar. (82)	5 Thur.	16 20 38	22 Mar. (81)	4 Wed.	259-0998	713-6413	272-9269	4280
23 Mar. (82)	6 Fri.	22 32 47	11 Mar. (70)	1 Sun.	134-8226	560-8853	242-1036	4281
23 Mar. (83)	1 Sun.	4 44 56	28 Feb. (59)	5 Thur.	10-5455	408-1294	211-2804	4282
23 Mar. (82)	2 Mon.	10 57 5	18 Mar. (77)	4 Wed.	45-2279	344-1228	262-5909	4283
23 Mar. (82)	3 Tues.	17 9 14	7 Mar. (66)	1 Sun.	9920-9507	191-3668	231-7677	4284
23 Mar. (82)	4 Wed.	23 21 23	24 Feb. (55)	5 Thur.	9796-6735	38-6109	200-9444	4285
23 Mar. (83)	6 Fri.	5 33 32	15 Mar. (75)	5 Thur.	169-9879	10-8960	254-9926	4286
23 Mar. (82)	0 Sat.	11 45 41	4 Mar. (63)	2 Mon.	45-7108	858-1401	224-1694	4287
23 Mar. (82)	1 Sun.	17 57 50	23 Mar. (82)	1 Sun.	80-3931	794-1335	275-4799	4288
24 Mar. (83)	3 Tues.	0 9 59	13 Mar. (72)	6 Fri.	294-7480	677-6693	247-3944	4289
23 Mar. (83)	4 Wed.	6 22 8	1 Mar. (61)	3 Tues.	170-4708	524-9133	216-5712	4290
23 Mar. (82)	5 Thur.	12 34 17	19 Mar. (78)	1 Sun.	9866-5213	424-6151	265-1438	4291
23 Mar. (82)	6 Fri.	18 46 26	8 Mar. (67)	5 Thur.	9742-2440	271-8592	234-3207	4292
24 Mar. (83)	1 Sun.	0 58 35	26 Feb. (57)	3 Tues.	9956-5989	155-3949	206-2352	4293
23 Mar. (83)	2 Mon.	7 10 44	16 Mar. (76)	2 Mon.	9991-2813	91-3884	257-5456	4294
23 Mar. (82)	3 Tues.	13 22 53	6 Mar. (65)	0 Sat.	205-6361	974-9241	229-4602	4295
23 Mar. (82)	4 Wed.	19 35 2	23 Feb. (54)	4 Wed.	81-3589	822-1741	198-6370	4296
24 Mar. (83)	6 Fri.	1 47 11	14 Mar. (73)	3 Tues.	116-0413	758-1608	249-9474	4297

TABLE

CONCURRENT YEAR.							Intercalated ( <i>adhika</i> ) and suppressed ( <i>kshaya</i> ) true lunar months.	
Kali.	Saka.	Chaitrādi Vikrama.	Mēshadi solar year in Bengal.	Kollam.	A. D.	JOVIAN SAMVATSARA.		
						Southern system.		Northern system.
1	2	3	3a	4	5	6	7	8
4298	1119	1254	603	371-72	*1196-97	50 Anala . .	54 Raudra . .	6 Bhādrapada
4299	1120	1255	604	372-73	1197-98	51 Piṅgala . .	55 Durmati . .	...
4300	1121	1256	605	373-74	1198-99	52 Kālayukta . .	56 Dundubhi . .	...
4301	1122	1257	606	374-75	1199-1200	53 Siddhārthin . .	57 Rudhirōdgārin . .	4 Āshāḍha . .
4302	1123	1258	607	375-76	*1200-01	54 Raudra . .	58 Raktāksha . .	...

LXXXII—Concl'd.

COMMENCEMENT OF THE								
SOLAR YEAR.			LUNI-SOLAR YEAR (MEAN SUNRISE OF CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).					Kali.
Day and month A. D.	Week-day.	Time of true Mēsha-sam-krānti.	Day and month A. D.	Week-day.	a	b	c	
13	14	17	19	20	23	24	25	1
		H. M. S.						
23 Mar. (83)	0 Sat. .	7 59 20	2 Mar. (82)	0 Sat. .	9991-7641	605-4056	219-1242	4298
23 Mar. (82)	1 Sun. .	14 11 29	21 Mar. (80)	6 Fri. .	26-4465	541-3991	270-4346	4299
23 Mar. (82)	2 Mon.	20 23 38	10 Mar. (69)	3 Tues.	9902-1694	388-6432	239-6115	4300
24 Mar. (83)	4 Wed.	2 35 47	27 Feb. (58)	0 Sat. .	9777-8923	235-8872	208-7660	4301
23 Mar. (83)	5 Thur.	8 47 56	17 Mar. (77)	6 Fri. .	9812-5747	171-8807	260-0765	4302

TABLE LXXXIII A.

DURATION AND COLLECTIVE DURATION OF TRUE SOLAR MONTHS, WITH INCREASE OF *a*, *b*, *c* AT EACH TRUE SAMKRĀNTI.

By the Brahma-Siddhānta.

Calculated for the year K. Y. 4500, (expired), A. D. 899—900.

*a* in 10,000 *ths* of circle; *b* and *c* in 1,000 *ths*; "*saṁ*" = solar samkrānti.

Luni-solar month (ending at the second of the two solar sam- krāntis connec- ted with it).	At true solar samkrānti.	Collective duration in days, hours, etc., and collective increase of a, b, c from true Mēsha-samkrānti to each true samkrānti.							At true solar samkrānti.	Length of solar month preceding each true samkrānti, and increase of a, b, c between each such samkrānti.				
		Day.	Week.	H. M. S.	a	b	c	Day.		Week.	H. M. S.	a	b	c
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Chaitra	{ Mīna-sam. (of previous year). Mēsha-sam. . . . .	0	0	0 0 0	0	0	0	Mēsha-sam. . . . .	0	0	0	0	0	0
2. Vaiśākha	{ Vṛṣabha-sam . . . . .	30	(2)	22 21 9	474-3381	122-5490	84-6833	Vṛṣabha-sam. . . . .	30	(2)	22 21 9	474-3381	122-5490	84-6833
3. Jyēṣṭha	{ Mithuna sam. . . . .	62	(6)	8 15 57	1111-7956	262-5752	170-6856	Mithuna-sam. . . . .	31	(3)	9 54 48	637-4575	140-0262	86-0023
4. Āshāḍha	{ Karka-sam. . . . .	93	(2)	23 12 15	1820-1580	410-2049	257-2610	Karka-sam. . . . .	31	(3)	14 56 18	708-3624	147-6297	86-5754
5. Śrāvapa	{ Sīṁha-sam. . . . .	125	(6)	10 42 48	2480-1360	552-8492	343-4452	Sīṁha-sam. . . . .	31	(3)	11 30 33	659-9780	142-4443	86-1842
6. Bhādrapada	{ Kanyā-sam. . . . .	156	(2)	11 41 2	2991-4178	679-1575	428-4273	Kanyā-sam. . . . .	31	(3)	0 58 15	511-2818	126-5083	84-9821
7. Āśvina	{ Tulā-sam. . . . .	186	(4)	22 35 29	3304-2747	784-4003	511-8051	Tulā sam. . . . .	30	(2)	10 54 27	312-8569	105-2423	83-3778
8. Kārtika	{ Vṛśchika-sam. . . . .	216	(6)	20 28 50	3433-4472	869-9574	593-6979	Vṛśchika-sam. . . . .	29	(1)	21 53 21	129-1725	85-5571	81-8928
9. Mārgaśīra	{ Dhanu-sam. . . . .	246	(1)	8 0 47	3416-4906	939-8537	674-4092	Dhanu-sam. . . . .	29	(1)	11 31 57	9983-0434	69-8963	80-7113
10. Pausa	{ Makara-sam. . . . .	275	(2)	16 6 58	3351-2241	4-5725	754-7299	Makara-sam. . . . .	29	(1)	8 6 11	9934-7335	64-7188	80-3207
11. Māgha	{ Kumbha-sam. . . . .	305	(4)	2 49 9	3322-5644	73-2145	835-3466	Kumbha-sam. . . . .	29	(1)	10 42 11	9971-3403	68-6420	80-6167
12. Phālguna	{ Mīna-sam. . . . .	334	(5)	22 4 25	3414-5580	154-7871	916-9387	Mīna-sam. . . . .	29	(1)	19 15 16	91-9936	81-5726	81-5921
1. Chaitra (of following year).	{ Mēsha-sam. (of following year).	365	(1)	6 12 9	3688-2056	255-8315	1000-0	Mēsha-sam. (of following year).	30	(2)	8 7 44	273-6476	101-0407	83-0606

TABLE LXXXIII B.

VALUE OF  $c$  AND OF " EQUATION  $c$  " AT THE SEVERAL TRUE SAMKRĀNTIS.

Correct for K. Y. 4000, A. D. 899-900.

 $c$  in 1,000ths of circle, " equation  $c$  " in 10,000ths.

Samkrānti.	$c$	" Equation $c$ ."
Mēsha-sam. .	277·6064	0·9037
Vṛishabha-sam. .	362·2899	14·4355
Mithuna-sam. .	448·2921	41·1356
Karka-sam. .	534·8676	73·5542
Simha-sam. .	621·0519	102·0578
Kanyā-sam. .	706·0241	118·5381
Tulā-sam. .	789·4020	118·9561
Vṛiśchika-sam. .	871·2948	104·1144
Dhanus-sam. .	952·0062	78·3666
Makara-sam. .	32·3264	48·2336
Kumbha-sam. .	112·9432	21·0624
Mina-sam. .	194·5355	3·6464

TABLE LXXXIII C.

EXACT VALUE OF  $c$  AND OF " EQUATION  $c$  " AT THE MOMENT OF TRUE MĒSHA-SAMKRĀNTI AT BEGINNING OF EACH CENTURY K. Y. $c$  in 1,000ths of circle. " Equation  $c$  " in 10,000ths.

K. Y.	A. D.	$c$	" Eqn. $c$ ."
3700	599-600	277·6399	0·9347
3800	699-700	277·6287	0·9340
3900	799-800	277·6175	0·9333
4000	899-900	277·6064	0·9326
4100	999-1000	277·5952	0·9319
4200	1099-1100	277·5840	0·9312
4300	1199-1200	277·5728	0·9305

## TABLES LXXXIV, LXXXV.

" EQUATION *b* " AND " EQUATION *c* " IN WHOLE NUMBERS BY THE BRAHMA-SIDDHĀNTA AND  
SIDDHĀNTA-SIRĪMAṆI.

*Corresponding to Tables VI, VII, " Indian Calendar."*

For close detail Tables LV, LVI, (Vol. XV above) are to be used.

" Arg."=moon's (*b*) or sun's (*c*) mean anom. in 1000ths of circle.

TABLE LXXXIV.

LUNAR " EQUATION *b*."

Arg.	Eqn.	Arg.
0	140	500
10	149	490
20	158	480
30	166	470
40	174	460
50	183	450
60	191	440
70	199	430
80	207	420
90	214	410
100	222	400
110	229	390
120	235	380
130	241	370
140	247	360
150	253	350
160	258	340
170	262	330
180	266	320
190	270	310
200	273	300
210	275	290
220	277	280
230	279	270
240	279	260
250	280	250

Arg.	Eqn.	Arg.
500	140	1000
510	131	990
520	122	980
530	114	970
540	105	960
550	97	950
560	88	940
570	80	930
580	73	920
590	65	910
600	58	900
610	51	890
620	44	880
630	38	870
640	32	860
650	27	850
660	22	840
670	17	830
680	13	820
690	10	810
700	7	800
710	4	790
720	2	780
730	1	770
740	0	760
750	0	750

TABLE LXXXV.

SOLAR " EQUATION *c*."

Arg.	Eqn.	Arg.
0	60	500
10	58	490
20	53	480
30	49	470
40	46	460
50	42	450
60	38	440
70	34	430
80	31	420
90	28	410
100	25	400
110	22	390
120	19	380
130	16	370
140	14	360
150	12	350
160	9	340
170	7	330
180	6	320
190	4	310
200	3	300
210	2	290
220	1	280
230	0	270
240	0	260
250	0	250

Arg.	Eqn.	Arg.
500	60	1000
510	64	990
520	68	980
530	72	970
540	75	960
550	79	950
560	82	940
570	86	930
580	89	920
590	93	910
600	96	900
610	99	890
620	102	880
630	104	870
640	107	860
650	109	850
660	111	840
670	113	830
680	115	820
690	117	810
700	118	800
710	119	790
720	120	780
730	120	770
740	121	760
750	121	750

## AUXILIARY TABLE.

Difference in Equa- tion.	Last figure of argument									
	9	8	7	6	5	4	3	2	1	
	Add or subtract									
9	8	7	6	5	4 or 5	4	3	2	1	
8	7	6	6	5	4	3	2	2	1	
7	6	6	5	4	3 or 4	3	2	1	1	
6	5	5	4	4	3	2	2	1	1	
5	4 or 5	4	3 or 4	3	2 or 3	2	1 or 2	1	0 or 1	
4	4	3	3	2	2	2	1	1	0	
3	3	2	2	2	1 or 2	1	1	1	0	
2	2	2	1	1	1	1	1	0	0	
1	1	1	1	1	0 or 1	0	0	0	0	

TABLE LXXXVI.

VALUE OF  $a$ ,  $b$ ,  $c$  AT BEGINNING OF CENTURIES OF THE KALIYUGA, BY THE BRAHMA-SIDDHANTA.

K. Y. Century.	Begin- ning in A.D.	Week- day.	$a$	$b$	$c$
37	599	0	6028-1929	719-2529	282-9906
38	699	6	4900-0921	308-0530	283-3962
39	799	6	3433-3593	860-5614	281-0640
40	899	6	2305-2584	440-3615	281-4695
41	999	6	1177-1576	38-1616	281-8751
42	1099	6	49-0567	626-9616	282-2807
43	1199	0	8920-9559	215-7617	282-6863

TABLE LXXXVII.

INCREASE OF  $a$ ,  $b$ ,  $c$  FOR YEARS OF KALIYUGA CENTURY.

\* = year of 366 days.

Year.	Week- day.	$a$	$b$	$c$	Year.	Week- day.	$a$	$b$	$c$
0	0	0	0	0	30	3	729-2961	683-8984	0-6759
1	1	3600-6747	240-4522	999-2925	31	4	4329-9708	930-3505	999-9683
*2	2	7201-3494	492-9043	998-5849	32	5	7930-6455	176-8027	999-2608
3	4	1140-6560	775-6482	0-6151	*33	6	1531-3202	423-2549	998-5533
4	5	4741-3307	22-1003	999-9076	34	1	5470-6268	705-9987	0-5835
5	6	8342-0054	268-5525	999-2001	35	2	9071-3015	952-4509	999-8759
*6	0	1942-6800	515-0047	998-4825	36	3	2671-9762	198-9030	999-1684
7	2	5881-9867	797-7485	0-5227	*37	4	6272-6509	445-3552	998-4609
8	3	9482-6614	44-2007	999-8152	38	6	211-9575	728-0990	0-4911
9	4	3083-3360	290-6528	999-1077	39	0	3812-6322	974-5512	999-7836
*10	5	6684-0107	537-1050	998-4001	40	1	7413-3069	221-0034	999-0760
11	0	623-3174	819-8488	0-4303	*41	2	1013-9815	467-4555	998-3685
12	1	4223-9921	66-3010	999-7228	42	4	4953-2882	750-1994	0-3987
*13	2	7824-6667	312-7532	999-0153	43	5	8553-9629	996-6515	999-6912
14	4	1763-9734	595-4970	1-0455	*44	6	2154-6376	243-1037	998-9836
15	5	5364-6481	841-9492	0-3379	45	1	6093-9442	525-8475	1-0138
16	6	8965-3227	88-4013	999-6304	46	2	9694-6189	772-2997	0-3063
*17	0	2565-9974	334-8535	998-9229	47	3	3295-2936	18-7519	999-5988
18	2	6505-3041	617-5973	0-9531	*48	4	6895-9682	265-2040	998-8912
19	3	105-9788	864-0495	0-2455	49	6	835-2749	547-9479	0-9214
20	4	3706-6534	110-5017	999-5380	50	0	4435-9496	704-4000	0-2139
*21	5	7307-3281	356-9539	998-8305	51	1	8036-6243	40-8522	999-5064
22	0	1246-6348	639-6977	0-8607	*52	2	1637-2989	287-3044	998-7988
23	1	4847-3094	886-1499	0-1531	53	4	5576-6056	570-0482	0-8290
24	2	8447-9841	132-6020	999-4456	54	5	9177-2803	816-5004	0-1215
*25	3	2048-6588	379-0542	998-7381	55	6	2777-9549	62-9526	999-4140
26	5	5987-9655	661-7980	0-7683	*56	0	6378-6296	309-4047	998-7064
27	6	9588-6401	908-2502	0-0607	*57	2	317-9363	592-1485	0-7366
28	0	3189-3148	154-7024	999-3532	58	3	3918-6110	838-6007	0-0291
*29	1	0789-9895	401-1545	998-6457	59	4	7519-2856	85-0529	999-3216



TABLE LXXXVIII.

TABLE LXXXVII—Contd.

VALUES OF  $a$ ,  $b$ ,  $c$  PER DAY FROM MINA 1 TO  
MESHA 2, THE DAY OF MEAN MESHA-SAMKRĀNTI.

Year.	Week-day.	$a$	$b$	$c$	No. of days interval from 0 Mēsha.	Month and day.	Week-day.	$a$	$b$	$c$
					1	2	3	4	5	6
*60	5	1119-9603	331-5051	998-6140						
61	0	5059-2670	614-2489	0-6442						
62	1	8659-9416	860-7011	999-9367						
63	2	2260-6183	107-1532	999-2292						
*64	3	5861-2910	353-6054	998-5216						
65	5	9800-5977	636-3492	0-5518	29	Mina 1	4	9502-4085	874-9589	915-1286
66	6	3401-2723	882-8014	999-8443	28	" 2	5	9841-0404	911-2506	917-8664
67	0	7001-9470	129-2536	999-1368	27	" 3	6	179-6724	947-5422	920-6042
*68	1	602-6217	375-7057	998-4292	26	" 4	0	518-3044	983-8339	923-3419
69	3	4541-9283	658-4496	0-4594	25	" 5	1	856-9364	20-1255	926-0797
70	4	8142-6030	904-9017	999-7519						
*71	5	1743-2777	151-3539	999-0444	24	" 6	2	1195-5684	56-4172	928-8175
72	0	5682-5844	434-0977	1-0746	23	" 7	3	1534-2004	92-7088	931-5553
73	1	9283-2590	680-5499	0-3670	22	" 8	4	1872-8324	129-0005	934-2931
74	2	2883-9337	927-0021	999-6595	21	" 9	5	2211-4643	165-2921	937-0309
					20	" 10	6	2550-0963	201-5838	939-7687
*75	3	6484-6084	173-4542	998-9520						
76	5	423-9150	456-1981	0-9822						
77	6	4024-5897	702-6502	0-2746	19	" 11	0	2888-7283	237-8754	942-5065
78	0	7625-2644	949-1024	999-5671	18	" 12	1	3227-3603	274-1671	945-2442
*79	1	1225-9391	195-5546	998-8596	17	" 13	2	3565-9923	310-4587	947-9820
					16	" 14	3	3904-6243	346-7504	950-7198
					15	" 15	4	4243-2563	383-0420	953-4576
80	3	5165-2457	478-2984	0-8898						
81	4	8765-9204	724-7506	0-1822						
82	5	2366-5951	971-2027	999-4747						
*83	6	5967-2698	217-6549	998-7672	14	" 16	5	4581-8882	419-3336	956-1954
84	1	9906-5764	500-3987	0-7974	13	" 17	6	4920-5202	455-6253	958-9382
					12	" 18	0	5259-1522	491-9169	961-6710
					11	" 19	1	5597-7842	528-2086	964-4088
85	2	3507-2511	746-8509	0-0898	10	" 20	2	5936-4162	564-5002	967-1465
86	3	7107-9258	993-3031	999-3823						
*87	4	708-6004	239-7552	998-8748						
88	6	4647-9071	522-4991	0-7050						
89	0	8248-5818	768-9512	999-9974	9	" 21	3	6275-0482	600-7919	969-8843
					8	" 22	4	6613-6801	637-0835	972-6221
					7	" 23	5	6952-3121	673-3752	975-3599
90	1	1849-2565	15-4034	999-2899	6	" 24	6	7290-9441	709-6668	978-0977
*91	2	5449-9311	261-8556	998-5824	5	" 25	0	7629-5761	745-9585	980-8355
92	4	9389-2378	544-5994	0-6126						
93	5	2989-9125	791-0516	999-9050						
94	6	6590-5871	37-8038	999-1975						
*95	0	191-2618	283-9559	998-4900	4	" 26	1	7968-2081	782-2501	983-5733
96	2	4130-5685	566-6997	0-5202	3	" 27	2	8306-8401	818-5418	986-3111
97	3	7731-2431	813-1519	999-8126	2	" 28	3	8645-4721	854-8334	989-0488
98	4	1331-9178	59-6041	999-1051	1	" 29	4	8984-1040	891-1251	991-7866
*99	5	4932-5925	306-0563	998-3976						
100	0	8671-9902	588-8001	0-4278						
						Mēsha 0	5	9322-7360	927-4167	994-5244
						" 1	6	9661-8680	963-7084	997-2622
						" 2	0	0	0	0

TABLE LXXXIX.

SUN'S EQUATION OF THE CENTRE AND SINE-VALUES ACCORDING TO THE BRAHMA-SIDDHANTA.

Serial No. of sine.	SUN'S MEAN ANOM.		SINE OF ANOM. ANGLE.		EQUATION.		SUN'S MEAN ANOM.		Serial No. of sine.
			Value in minutes.	Diff.	Equation.	Difference per minute of anom.			
1	2		3	4	5	6	7		1
	° /	° /	'	'	° / "	"	° /	° /	
0	0 0	180 0	0	214	0 0 0	2-27	180 0	360 0	0
1	3 45	176 15	214	213	0 8 32-50	2-2760	183 45	356 15	1
2	7 30	172 30	427	211	0 17 2-61	2-2458	187 30	352 30	2
3	11 15	168 45	638	208	0 25 27-92	2-2128	191 15	348 45	3
4	15 0	165 0	846	205	0 33 46-05	2-1822	195 0	345 0	4
5	18 45	161 15	1051	200	0 41 57-02	2-1287	198 45	341 15	5
6	22 30	157 30	1251	195	0 49 55-97	2-0755	202 30	337 30	6
7	26 15	153 45	1446	189	0 57 42-97	2-0117	206 15	333 45	7
8	30 0	150 0	1635	182	1 5 15-60	1-9372	210 0	330 0	8
9	33 45	146 15	1817	174	1 12 31-46	1-8520	213 45	326 15	9
10	37 30	142 30	1991	165	1 19 28-17	1-7562	217 30	322 30	10
11	41 15	138 45	2156	156	1 26 3-32	1-6604	221 15	318 45	11
12	45 0	135 0	2312	147	1 32 16-92	1-5646	225 0	315 0	12
13	48 45	131 15	2459	135	1 38 8-96	1-4369	228 45	311 15	13
14	52 30	127 30	2594	125	1 43 32-27	1-3305	232 30	307 30	14
15	56 15	123 45	2719	113	1 48 31-62	1-2028	236 15	303 45	15
16	60 0	120 0	2832	101	1 53 2-24	1-0750	240 0	300 0	16
17	63 45	116 15	2933	88	1 57 4-12	0-9367	243 45	296 15	17
18	67 30	112 30	3021	75	2 0 34-87	0-7982	247 30	292 30	18
19	71 15	108 45	3096	63	2 3 34-49	0-6706	251 15	288 45	19
20	75 0	105 0	3159	48	2 6 5-36	0-5184	255 0	285 0	20
21	78 45	101 15	3207	35	2 8 1-90	0-3651	258 45	281 15	21
22	82 30	97 30	3242	21	2 9 24-14	0-2235	262 30	277 30	22
23	86 15	93 45	3263	7	2 10 14-43	0-0745	266 15	273 45	23
24	90 0	90 0	3270		2 10 31-19		270 0	270 0	24

## No. 12.—THE KEDARPUR PLATE OF SRI-CHANDRA-DEVA.

BY NALINI KANTA BHATTASALI, M.A., CURATOR, DACCA MUSEUM.

In the October number of the *Dacca Review*, for 1912, Mr. J. T. Rankin, I.C.S., published a note given him by the late lamented scholar Bābu Gaṅgāmohan Laskar, M.A., on a copper-plate inscription of Śrī-Chandra-Dēva found at Idilpur in the Faridpur District of Bengal. This note for the first time established the fact that a Buddhist line of kings with the suffix "Chandra" at the end of their names had ruled in East Bengal with Vikramapura as their capital about the 10th or 11th century of the Christian Era and votaries of antiquarian studies in Bengal have been busy thenceforth, discussing the position of the Chandra kings of Vikramapura in the chronology of their country. The discovery of a second copper-plate of Śrī-Chandra-Dēva at Rāmpāl in the Munshiganj sub-division of the Dacca District in April, 1913, by Prof. Rādhā-Gōvinda Basāk, M.A., gave a further impetus to the discussion. Prof. Basāk published this plate first in the *Śrāvana* and *Bhādra* number of the vernacular magazine *Sāhitya* for 1320 B.S. and finally in the *Epigraphia Indica*, above, Vol. XII, page 136.

The present plate is the third of Śrī-Chandra-Dēva. It was found in April, 1919, in excavating earth from a ditch at Kēdārpur in the Mādāripur sub-division of the Faridpur District of Bengal. It was preserved in the custody of the second teacher of the Kēdārpur Middle English School. I came to know of the find from a friend and it has been obtained for the Dacca Museum by the Hon'ble Mr. T. Emerson, C.I.E., I.C.S., through the kind efforts of Mr. J. N. Roy, I.C.S., Magistrate of Faridpur, and Mr. N. Sen, Sub-Divisional Officer of Mādāripur.

The plate measures  $8\frac{1}{2}'' \times 7\frac{1}{4}''$ , and is therefore slightly smaller than the plate published by Mr. Basāk, which measures  $9\frac{1}{2}'' \times 8''$ . The Royal Seal of the Chandras is attached to the middle of the top of the plate. It displays the *Wheel of the Law* with two couchant deer on the two sides, symbolical of the first "Turning of the Wheel of the Law" at the Deer Park,—the present Sarnāth near Benares. It is noteworthy that the Pālas of Bengal who preceded the Chandras, and who were Buddhists as well, had similar devices on their seals. The name of Śrī Śrī-Chandra-Dēva[h] is written in relief below the Wheel in the present seal.

The plate is incomplete and appears to be no grant at all, but only a plate kept ready, with the stereotyped portion of the grant inscribed in the office of issue, to be filled in with the necessary remaining portions as occasion arose. The plate is full of engraver's mistakes of a serious nature. It may be noted that Kēdārpur, where this plate was found, contains the ruins of a royal settlement surrounded by a broad ditch as well as a big silted up tank, commonly associated with the memory of Kedār Rāy, one of the famous twelve chieftains who ruled Bengal before the country was completely dominated by the Mughals. Kedār Rāy had his capital at Śripur, which, from the description of Ralph Fitch, appears to have been a flourishing town in 1585; and the reasonableness of having a second capital, only a few miles off, is not very apparent. Of course a thousand and one contingencies might have taken the present plate to Kēdārpur, where it has now been found, but the find of this unfinished plate also makes it possible that the ruins at Kēdārpur may be those of the Chandras who preceded Kedār Rāy by no less than five hundred years.

The plate is inscribed on one side only and there is a vacant space of about two inches at the bottom. The inscription contains 18 lines of writing. The letters are 24 to 30 inch in height and are in most places well inscribed. Mistakes of engraver or scribe are, however,

numerous and they have rendered the preparation of a correct text an undertaking of exceptional difficulty.<sup>1</sup>

The inscription refers to the reign of Śrī-Chandra-Dēva of the Chandra family of Kings who held sovereignty in East Bengal for some decades before the rise of the Varmans and the Sēnas in that part of the country, towards the end of the Pāla rule in North Bengal. It is written in what may be called the Bengali Script of the 10th-11th century A.D. The language of the inscription is correct Sanskrit verse, except in the portions spoiled by engraver's mistakes. The last three lines are in prose.

There is nothing very special as regards orthography. The use of *va* for *ba* is almost the rule in the later East Indian epigraphs, there being no discrimination between them, as in the modern Bengali language. The *avagraha* is once used and once omitted. The spelling of the word *nistrinśa* with *ñ* is remarkable. Superimposed *r* has doubled almost all consonants.

From a comparison of the abstract of the Idilpur plate of Śrī-Chandra published in the *Dacca Review*, referred to above, with the contents of the present plate, it is evident that the two plates are copies of the same draft. The Idilpur plate seems to have an extra *Śloka* towards the end, borrowed from Śrī-Chandra's Rāmpāl plate, which is otherwise the copy of a draft different from that of the Idilpur and the Kēdārpur plates. It should be noted, however, that the opening invocatory *Śloka* is identical in all the three plates.

Śrī-Chandra seems to have been the only king of the Chandra family who was powerful enough to issue copper-plate grants, as the three plates hitherto discovered are all in his name. In order, therefore, to bring together all the epigraphical material available for his history, I quote below the necessary portions from Bābu Gaṅgāmōhan Laskar's abstract of the Idilpur plate, as published in the *Dacca Review*. The plate is reported to exist still; but it is in the custody of people who are unwilling to show it to anybody again.

<sup>2</sup> "The inscription gives the names of three kings :—(1) Suvarṇa-Chandra. (2) His son Trailōkya-Chandra. (3) Trailōkya-Chandra's son (Śrī)-Chandra-Dēva. The last of these kings issues a command from his victorious camp at Vikrampur making a gift of certain lands at the village called Leliyā in the Kumāratalakā sub-division (*maṇḍala*) of the Satapa-Padmā-vāṭi district (*viśaya*). The name Satapa-Padmāvāṭi literally means 'with-bank-Padmā-house' and was most probably the name of a district on the banks of the Padmā river. The names of some of the donees are still legible and the measures of the area of the granted lands are called *drōṇas* and *pāṭakas*, as in the Āsrafpur plates. Paramount titles such as *Paramēśvara*, *Parama-bhaṭṭāraka* and *Mahārājādhirāja* are attached to the names of (Śrī)-Chandra-Dēva. The title *Parama-Saṅgata* (the devout worshipper of Sugata, i.e. Buddha) is prefixed to the name of the donor. The characters used are probably of the 12th century type of the Bengali alphabet. The seal attached to the top of the plate resembles the seals found on the plates of the Pāla kings of Bengal. The inscription under notice is very important, as it, like the Āsrafpur plates of Dēvakhaḍga, shows the existence of Buddhist kingdoms in East Bengal in the period not much anterior to the conquest of Bengal by the Mussalmans.

" . . . . . The plate is inscribed on one side fully and on another side partly. The writing on the second side has become almost defaced. This defaced portion contains the names of the donees and the particulars of the lands granted. There are altogether 36 lines of writing. An analysis is given below :—

Lines 1-4. Contain a verse in honour of Buddha, probably.

<sup>1</sup> I should gratefully acknowledge here the help that I have received in this respect from Prof. Abhayā Charaṇ Chakravarti, M.A., of the Jagannāth College, Dacca, without whose help I could hardly have made any headway, especially with the passages that are marred by the engraver's mistakes. I also owe some improvements in the reading of the text to the suggestions of my friend Prof. Basāk, in whose company I had the opportunity of revising my first transcription.

<sup>2</sup> [In this extract, the disritical marks, according to the latest emendation, have been adopted.—H. K. S.]

Lines 4-5. State that there was a king named Suvarṇṇa-Chandra who was neither purified in fire nor measured on the scales (like gold) but was by nature endowed with greatness (heaviness) and whose deeds were good.

Lines 5-6. State in a verse why the king was called Suvarṇṇa-Chandra.

Lines 6-9. The above king got a son named Trailōkya-Chandra, whose look was sacred, who was afraid of the next world, by whom the living world was consoled, whose meritorious deeds were well known throughout the three worlds.

Lines 9-10. Some further epithets of the same king who satisfied his desire of conquering the whole world and who extinguished the fire of his enemies.

Lines 11-13. More eulogistic epithets (of Trailōkya-Chandra-Dēva).

Lines 14-15. The above king had a son named (Śrī)-Chandra who was like Indra and whose prowess was like Indra and who was born at the auspicious moment and the signs at whose birth were indicative of royal fortune.

Lines 15-18. Some eulogistic epithets of (Śrī)-Chandra-Dēva.

Lines-18-19. From the victorious camp pitched at Vikramapura,

Line 20, the devout worshipper of Sugata (Buddha), the meditator of the feet of (i.e. the son of) Mahārājādhirāja Trailōkya-Chandra-Dēva, the Paramēśvara, the Paramabhaṭṭāraka,

Line 21, the Mahārājādhirāja, the Śrīmān, Śrī-Chandra-Dēva, being in good health and having done honour to all the following royal officers and villagers assembled at the village of Leliyā,

Line 22, in the Kumāratālākā-maṇḍala of Saṭaṭa-Padmāṣṭā(ṭi) district,

Line 28, thus commands the above officers . . . . .

Lines 29-30. Contain the names of the donees."

The following is an abstract of the present Kēdārpur plate :—

The inscription opens with a salutation to the Buddha, the Dharmma, and the Saṅgha,—the three jewels of the Buddhist faith. It then goes on to say that there was one Pūrṇṇa-Chandra by name who was the possessor of large forces. He was neither of royal birth nor of pure caste, but he obtained a son Suvarṇṇa-Chandra by name, resplendent as gold (v. 3). Suvarṇṇa-Chandra was a famous man of religious character, and his son was Trailōkya-Chandra (v. 4). Trailōkya's conquests extended far and wide and he was a terror to his foes (v. 5). Trailōkya's son was Śrī-Chandra who was extremely virtuous (v. 6). He was a great conqueror whose fame at arms had reached the heavens (v. 7). With this last king Śrī-Chandra-Dēva who was to have issued this plate from his victorious capital at Śrī-Vikramapura the inscription stops.

I edit the inscription from the original plate, now in the Dacca Museum.

Seal.

श्री श्रीचन्द्रदेव[ः]

TEXT.

- 1 चिह्निरसु<sup>1</sup> स्वस्ति । वन्द्यो जिनः स भगवान् कश्चैकपातं
- 2 वन्द्यो<sup>2</sup>प्यसौ<sup>3</sup> विजयते जगदेकदीपः [1\*] यस्तेवया

<sup>1</sup> Expressed by a symbol. [This symbol is generally taken for om, but the writer has put forward arguments in his article "Some Image Inscriptions from East Bengal" published below in favour of this symbol being read

'Siddhir=astu.'—Ed.]

<sup>2</sup> Read वन्द्यो.

<sup>3</sup> Read श्री.

- 3 सकल एव महानुभावः संसारपारमुपगच्छति भिक्षुसङ्घः<sup>1</sup> ॥[१\*] पूर्व-  
 4 चन्द्र इति श्रीमानासौकासीरजं रजः । यस्मिन्मय<sup>2</sup>योष<sup>3</sup>तुह[त]मातपत्रमपत्र  
 5 पाः<sup>4</sup> ॥[२\*] नाम्नी विद्युदो न तुलाधिकदः किन्तु प्रकृत्यैव युतो  
 नरिदणा । तथापि क-  
 6 व्यापसुवर्णकस्यः सुवर्णचन्द्रमुज्जती ततोभूत्<sup>5</sup> ॥[३\*] पुष्पावलीकः परली-  
 7 कभीरोलीकः समाम्नासितजोवलीकः [१\*] त्रैलोक्यसंकीर्तितपुण्यकीर्तः त्रै-  
 8 लोकाचन्द्रोऽस्य व(व)भूव पुत्रः<sup>6</sup> ॥[४\*] चतुःपयोरागिसमाप्तपृथ्वीजयाभिलाषो वि-  
 9 यधिवलुभ्यः [१\*] युद्धेषु निजिग्यस्तताजलीन यो वैरिबन्धिं स<sup>7</sup>मयाच  
 कार<sup>8</sup> ॥[५\*]  
 10 श्रीमान् श्रीचन्द्रदेवः समजनि तनयस्तस्य सङ्घर्म्मव(व)न्धोः क्रूरारम्भे स<sup>9</sup>थासुः  
 11 परगुणमुच्चरो दोषवादकमूकः [१\*] प्रेक्ष्यः पीनो गुणानां निधिरिति  
 12 विषयासक्तिपक्षादिपक्षे यस्मिन्ना(का)धत्त वेधा<sup>10</sup> त्रियमतिरभसादर्थतो ना-  
 13 मतच<sup>11</sup> ॥[६\*] अष्टः पार्थिवपांसुदोहरसञ्जवाचनदिग्गजे<sup>12</sup>नेत्राणामनिमे-  
 14 षतः परिहृतो दूरेण हृन्दारकैः [१\*] केशिहृत्सरसामपूर्वपलितभ्रातं  
 15 समारोपयन् सन्तानो रजसां रणेसु<sup>13</sup>बु जयिनो यस्य सुमार्गं  
 गतः<sup>14</sup> ॥ [७\*]  
 16 स खलु श्रीविक्रमपुरसमावासितश्रीमज्जयस्कन्धावारात् परमसीगतो  
 17 महाराजाधिराजः श्रीत्रैलोक्यचन्द्रदेवपादानुध्यातः परमेश्वरः प-  
 18 रमभट्टारको महाराजाधिराजः श्रीमान् श्रीचन्द्रदेवः कुग्रही ।

## TRANSLATION.

(Line 1.) May success attend ! May welfare accrue !

(Verse 1.) Adorable is the Lord Jina, the only receptacle of mercy. Victorious also is the Law, the only light of the world. By worshipping them, all the high-minded Congregation of Bhikshus cross to the other side of the world.

<sup>1</sup> Metre : Vasantatilakā.

<sup>2</sup> Read व.

<sup>3</sup> Read वि. [This corrupt *pāda* has not been properly interpreted. The letter व after य (P) is not seen on the impression. A plausible emendation which I would offer, with much hesitation though, is वृष्णा[द्वि]व[ः\*]वि [वृ\*]युः[व] and translate the passage thus : 'afraid of which (i.e. dust) the enemy (kings) sought refuge under his parasol giving up (all) shame.'—H. K. S.]

<sup>4</sup> Read वृ. Metre : Anuṣṭubh.

<sup>5</sup> Metre : Upajāti.

<sup>6</sup> Metre : Indravajrā.

<sup>7</sup> Read व.

<sup>8</sup> Metre : Upajāti.

<sup>9</sup> Read व.

<sup>10</sup> Read वेधाः.

<sup>11</sup> Metre : Śragdhara.

<sup>12</sup> This line is proposed to be thus restored :—अष्टः पार्थिवपांसुदोहरसञ्जवाचनेदिग्गजेः

<sup>13</sup> Delete यु.

<sup>14</sup> Metre : Śārdūlavikrīḍita.



(Verse 2.) There was one **Pūrṇa-Chandra** by name, favoured of the Goddess of fortune, the bold canopy of dust raised by whose vanguard (in battle) was welcomed by the wives of the Sun-God.<sup>1</sup>

(Verse 3.) By nature endowed with majesty, he was neither purified in fire (like gold or kings<sup>2</sup>) nor weighed in balance (like gold or like kings); yet from him came forth the meritorious **Suvarṇa-Chandra** resplendent as gold.

(Verse 4.) Of him, who was afraid of sinning against the other world and whose sacred fame was sung throughout the three worlds, was born the son **Trailōkya-Chandra**, the (mere) sight of whom was meritorious,—who was beautiful to look at, and who was a solace to mankind.

(Verse 5.) Not fond of (the possession of) *vishayas* (districts) [or, devoid of covetousness], but bent on conquering the (whole) earth limited by the four oceans, he put out in battles the fire, viz. his foes, by water, viz. his creeper-like sword.

(Verse 6.) To him, who was a friend of the right path, was born a son, the prosperous **Śrī-Chandra-Dēva** who was kind (even) towards mischievous endeavours, full of praise for others' good qualities, (but) absolutely dumb to the exposition of (others') faults; a well-built figure, pleasant to the sight and a repository of all virtues. Him, who was averse to all worldly attractions (*vishay-āsaṅgi*), the Disposer forcibly endowed with **Śrī** (fortune) both in name and in reality.

(Verse 7.) The multitude of dust particles raised by the victorious (king) in battles, met by the Elephants, the lord of the (ten) quarters completely engrossed by the proud desire of coming in contact with the (aforesaid) kingly dust,<sup>3</sup> and avoided from a distance by the gods whose eyes could not close (against it), proceeded towards heaven, causing on the hair of the heavenly nymphs the unprecedented illusion of whiteness of old age.

(Lines 16 to 18.) From his prosperous and victorious capital established at **Śrī-Vikramapura**, he, the devout worshipper of Sugata, the **Paramēśvara** (great lord) **Paramabhaṭṭāraka**, (the great protector) **Mahārājādhirāja** (the paramount sovereign), the illustrious **Śrī-Chandra-Dēva**, who meditates on the feet of the **Mahārājādhirāja Śrī-Trailōkya-Chandra-Dēva**, in good health—.

<sup>1</sup> [See above, page 191, note 3.—Ed.]

<sup>2</sup> [The so-called Agnikula Kshatriyas.—Ed.]

<sup>3</sup> [पृथ्वीपुष्प is the dust of the Earth. It is a well-known fact that elephants are fond of playing with dust.—Ed.]

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No. 13.—A NOTE ON THE DATES OF THE GUPTA COPPER PLATES  
FROM DAMODARPUR.

By K. N. DIXHIT, M.A.

The discovery of the Damodarpur plates has thrown new light on the fortunes of the Gupta dynasty in Eastern India. The plates have been edited by Mr. Radha Govinda Basak above, Vol. XV., pages 113-145. I wish here to point out certain inaccuracies in the readings of the dates as read by Mr. Basak, which I first noticed when I read his paper and subsequently verified by reference to the original plates, now preserved in the Varendra Research Society's Museum at Rajshahi.

The date of the second plate which has been read by Mr. Basak as 129 is to be read as 128. The unit figure which is a vertical line with a slight bend, and a seriph or small horizontal line at the top end, must be taken as the symbol for 8, while the symbol for 9 has a loop at the top.

The fifth plate has lost the name of the reigning Gupta sovereign, but the date has been fairly well preserved. It has been read as 214; but I see no trace of a 'ten' in the second figure, but a clear 'tha' denoting 20, the date thus being 224. That some Gupta sovereign held sway over North Bengal as late as 224 G.E. or 543 A.D., that is eleven years after the date of the Mandasor pillar inscription of Yaśodharman (532 A.D.) is an important result. It is no longer possible to assume with Mr. Basak that the Gupta Emperor who made the grant was Bhānugupta,<sup>1</sup> as the difference between the date of the plate and the only known date for Bhānugupta (*vis.*, 191 Gupta Era) is now 33 years. The fourth and fifth plates seem to be separated by a wider margin than that existing between any other two plates of the Damodarpur find. The intervening period of sixty years, roughly 164—224 Gupta Era (=483—543 A.D.) witnessed the gradual diminution of the Gupta dominion and the slow shifting of the centre of their power to the east. It also witnessed the rise and fall in succession of the Hāṇa chieftains Tōramāna and Mihirakula, and the transitory success of the Mālava chief Vishṇuvar-dhana Yaśodharman. Other dynasties like the 'Vardhana' kings of Thaneshvar and the Maukhari rulers of Kōsala were coming into power on the western outskirts of the Gupta Empire, the latter dynasty in particular having carried on an incessant warfare in Oudh and adjacent regions with the Guptas. It was probably the ascendancy of the Maukhari rulers in Ayōdhyā that drove the 'noble born' Amṛitadēva (the donor of the fifth Damodarpur plate) from his native place Ayōdhyā to the distant Paundravardhana province, which may seem to have been one of the last retreats of the Imperial Guptas. The Jaunpur inscription of the time of the Maukhari Īśvaravarman, though not dated, must belong to the same period as the fifth Damodarpur plate, as we know from the Haraha inscription that Īśvaravarman's son Īśānavarman had fully established himself in Oudh by 555 A.D.

## No. 14.—SOMALAPURAM GRANT OF VIRUPAKSHA: SAKA 1389.

By K. V. SUBRAHMANYA Aiyar, B.A., M.R.A.S., Ootacamund.

This set of three copper-plates, marked No. 2 in Appendix A of Rao Bahadur H. Krishna Sastri's Annual Report on Epigraphy for 1913-14,<sup>2</sup> is edited below for the first time with the help of one set of impressions kindly placed at my disposal by him.

The plates are reported to belong to a Kuruba ryot of Sōmalāpura in the Bellary taluka of the Bellary District. They were unearthed years ago while digging foundations for a house; but were secured in 1913, for the examination of the Assistant Archaeological Superintendent,

<sup>1</sup> [The reading at the end of l. 1 in Plate V of the Damodarpur Plates is probably Kumāra.—Ed.]

<sup>2</sup> See also p. 95, paragraph 25, of the same report.

Southern Circle, through the kind offices of the Tahsildar of the taluka, by the then Kanarese Epigraphical Student, Mr. K. Rama Sastri. Regarding the description of the plates Mr. Krishna Sastri has made the following note on the cover of the ink-impressions he sent to me:—

“Three plates with rounded tops of which the first and last are written on the inner sides only. They are held together by a ring which passes through a round hole bored at the top of each plate. On the ring, which is nearly  $2\frac{1}{2}$ ” in diameter and  $\frac{1}{4}$ ” in thickness, slides a circular seal shaped like a signet ring. The seal measures  $1\frac{1}{2}$ ” in diameter and bears in relief on its surface at the top the sun and the crescent and a standing boar facing the proper left. Below it is what looks like a floral device. The plates measure  $9\frac{1}{2}$ ” by  $6\frac{1}{2}$ ”. The circular top measures  $1\frac{1}{2}$ ” from the base to the middle of the arc.”

The plates are written in the Nandi-Nāgarī characters throughout excepting the syllables “*Sri-Virūpāksha*” at the end which are in Kannaḍa. The inscription is in a good state of preservation: the only places where the letters appear slightly damaged are at the commencement of lines 20 and 68.

The language of the inscription is Sanskrit verse from beginning to end. The description of the boundaries in *dśabhāṣā*, promised by verse 46 (ll. 71, 72), is left blank for reasons which cannot be guessed at this distance of time.

As is usual in the copper-plate grants of Vijayanagara kings, this record contains evident mistakes of spelling such as the frequent substitution of *sa* for *śa* (ll. 1, 4) and *vice versa* (ll. 1, 3); *tha* for *ta* (ll. 5, 16); *dha* for *tha* (l. 43); omission of *visarga* (ll. 5, 8, 13) and its retention in places where it has been changed into *ṣ* (l. 42); unnecessary insertion of *anusvāra* (ll. 37 and 38), etc. Conjunct consonants are sometimes written side by side as in *दद्यात्* (l. 2), *पान्थयन्* (l. 37) and *खड्गायतः* (l. 33). In *चतुष्टि* (l. 45) and *भूय* (l. 12) the rules of *sandhi* have not been properly observed. *न* has been unnecessarily doubled in *निम्निर्* and *visarga* has been changed into double *र* in *गुरुरे* (l. 27). Other instances of mistakes are *वीर* for *वैर* (l. 45), *सर्व* for *सर्वे* (l. 13) and *शिव* for *शिवे* (l. 17). As all the mistakes occurring in the record have been corrected in the text or in the foot notes, they have not been given here in more detail.

The first three verses are invocations addressed to Śiva, Gaṇapati and the boar incarnation of Viṣṇu. The fourth introduces the Moon, and the fifth refers to Yadu and Vāsudēva. The historical portion commences with *Singama* (v. 6). His son was *Bukka*. When he became king, the prosperity of the Kannaḍa kingdom was permanently established (vv. 7 and 8). *Harihara* (II) was born to him; he filled the quarters with the wealth of his charity (v. 9). He had a son named *Pratāpa-Dēvarāya* (I) by whom the *Turushkas* and hostile kings were overcome (vv. 12 and 13). His queen was *Dēvambikā* and their son was *Vijayabhūpati*, renowned for his wisdom (v. 14). *Vijayabhūpati*'s son by *Nārāyaṇīdēvi* was *Pratāpa*, also called *Praudhapratāpa* (v. 15), who obtained from his elder brother the kingdom of *Ghanadri* (v. 16). His son by queen *Siddaladēvi* was *Virūpāksha*. The titles *Rājādhirāja* (v. 18), *Rājaparamēśvara* (l. 42), *Mūrurāyaraṇḍa*, *Pararāya-bhayaśākara* and *Hindurāya-Suratāpa* and *Ohhurikā-bhālanētra* (v. 20) are given him. It is said that he obtained the kingdom by his own prowess and ascended the ancestral throne on the bank of the *Tungabhadra*, in the presence of god *Virūpāksha* (vv. 21 and 22).

In speaking of the ancestors of *Virūpāksha*, our record refers to the valour of *Bukka I.*, the munificence of *Harihara II*, the prowess of *Dēvarāya I* and the wisdom of *Vijayabhūpati*. The same is pithily expressed in a single couplet elsewhere<sup>1</sup> thus:—

शक्तौ बुद्धमहोपाखी दाने हरिहरेश्वरः ।  
शौर्व्ये शोदेवरानेशो ज्ञाने विजयभूपतिः ॥

<sup>1</sup> *South-Ind. Inscr.*, Vol. I, p. 163, verse 15.

The statement that when Bukka I, one of the two earliest sovereigns of the Vijayanagara dynasty, ascended the throne, the prosperity of the Karnāṭa kingdom was well established, is of particular interest to the student of history, as it seems to hint the probable fact that the Vijayanagara dominion was founded on the ruins of the Hoysala (i.e. the Karnāṭa) dominion, which was wrecked by the Muhammadan invasions of South India; and shows also that the inveterate feud between the Vijayanagara kings and the Muhammadan monarchs should have risen even from the very inception of the new Hindu kingdom. There is not much doubt that the country over which Bukka ruled was a portion of the Karnāṭa empire and that the Vijayanagara kings were the political successors of the Hoysalas.

Of greater importance are the statements of our plates that Pratāpa, also called Praṇḍhapratāpa, was the younger son of Vijayabhūpati, that he obtained from his elder brother,—showing clearly that he held a subordinate position under him,<sup>1</sup>—the government of Ghanādri, and that Virūpāksha II was his son.

The Satyamaṅgalam plates of Dēvarāya (II)<sup>2</sup> state that Vijayabhūpati had two sons of whom the elder was called Dēvarāya and the younger Pratāpa-Dēvarāya. From this it is clear that both the sons had in common the name Dēvarāya. The existence of these two sons of Vijayabhūpati, though not with their names specified, is recognised in the three copper-plate grants of Virūpāksha known to us so far, viz. the Sajjalūr plates,<sup>3</sup> the Śrīśailam plates<sup>4</sup> and the present Sōmalāpuram grant. These, being directly concerned in tracing the main line of Virūpāksha, naturally enough, omit to mention the name of the elder. While the Śrīśailam plates call the younger Pratāpa-Rāya, the other two give the additional information that he was renowned by his title *Praṇḍhapratāpa*. Thus, from all these sources it can be gathered that while the first son of Vijayabhūpati was known by the mere name Dēvarāya—with or without the common addition of Virapratāpa which is generally assumed by Vijayanagara kings—the younger was always called Praṇḍhapratāpa or Pratāpa-Dēvarāya which is sometimes supplemented in stone records by the epithet *gajavēṇṇai-kaṇḍarūṇi*. Among the stone records of Vijayanagara kings, the following are clearly attributable to the second son of Vijayabhūpati:—

No. 92 of the Madras Epigraphical collection for 1918.	Dated in Śaka 1351 in the reign of Pratāpa-Dēvarāya, son of Vira-Vijayarāya.
No. 91 of 1918 . . . . .	Dated in Śaka 1352 in the reign of Praṇḍha-Dēvarāya-Mahārāya, son of Vira-Vijayarāya-Mahārāya.
No. 68 of 1918 . . . . .	Dated in Śaka 1367 in the reign of Pratāpa-Dēvarāya-Mahārāya, son of Vira-Vijayarāya-Mahārāya.

Thus it is beyond doubt that the second son of Vijayarāya or Vijayabhūpati was not only called Pratāparāya and Praṇḍhapratāpa, but had the additional name Dēvarāya suffixed to these names. Further, the Madras Museum plates of Dēvarāya II<sup>5</sup> refer to a younger brother of his named Śrīgiri who was governing Maratakanagara in A.D. 1424-5 and the Satyamaṅgalam plates of Dēvarāya II, dated in the same year, imply that his younger brother Pratāpa-Dēvarāya was

<sup>1</sup> If Mr. Rice has correctly read *niṣāgrajāprāptam-anādi-rājyam* (p. 186 of *Ep. Carn.*, Vol. III), it is evidently a mistake of the engraver for *niṣāgrajāt-prāpta-Ghanādevi-rājya* given in our plates. His remarks (*ibid.*, introduction, p. 23) that Pratāpa or Praṇḍha-pratāpa obtained the immemorial kingdom from his elder sister requires modification.

<sup>2</sup> *Ep. Ind.*, Vol. III, p. 87 f.

<sup>3</sup> *Ep. Ind.*, Vol. XV, pp. 8 ff.

<sup>4</sup> This is a shortened form of Praṇḍhapratāpa.

<sup>5</sup> *Ep. Carn.*, Vol. III, pp. 135 ff., Ml. 121.

<sup>6</sup> *Ep. Ind.*, Vol. VIII, pp. 306 ff.

ruling over the same district. There is thus no doubt that Pratāpa-Dēvarāya is identical with Śrīgiri and this fact has been pointed out by Mr. Venkayya in his *Annual Report on Epigraphy* for 1906 (p. 82). It may be added that the name Praudhapratāpa-Dēvarāya was already assumed by Dēvarāya I.<sup>1</sup> A stone inscription of this second son under the name Śrīgirinātha-Uḍayār, dated in Śaka 1348, has also been discovered.<sup>2</sup>

In the face of the inscriptional evidence furnished in a number of genuine copper-plate grants and stone records referred to above, we do not attach any value to conclusions differing from recorded facts as have been arrived at by the late Mr. T. A. Gopinatha Rao in editing the Śrīśailam plates, where he has vainly attempted to show that there was but one son of Vijayabhūpati, by name Dēvarāya. He has advanced no valid grounds for disproving the identity of Śrīgiri with Praudhapratāpa-Dēvarāya, the second son of Vijayabhūpati.

The first two sons of Vijayabhūpati being known by the name Dēvarāya, it is but natural to mistake the sons of one of the Dēvarāyas for those of the other. But the fact mentioned in our inscription, viz. that Virūpāksha was the son of the second son of Vijayabhūpati, whom we have pointed out above to have borne the full name *gajavēṭṭai-kaṇḍaruṭiya* Praudhapratāpa Pratāpa Dēvarāya, is of importance as it conclusively controverts the commonly accepted view, viz. that Mallikārjuna and Virūpāksha were the sons of Dēvarāya II, the first son of Vijayabhūpati. In this connection, we may point out that two unpublished stone inscriptions furnish definite information. They come from Kundāni<sup>3</sup> in the Salem District and Conjeeveram<sup>4</sup> in the Chingleput District and state that Mallikārjuna and Virūpāksha were the sons of *Gajavēṭṭai-kaṇḍaruṭiya Praudha-pratāpa-Dēvarāya-Mahārāya*. Here the mention of the epithet Praudhapratāpa makes it certain that the king referred to is the younger son of Vijayabhūpati. Another stone inscription of Virūpāksha,<sup>5</sup> dated in the cyclic year Śārvari, calls him the son of Gajavēṭṭai-Pratāpa-Dēvarāya. It may be noted that while the mother of Virūpāksha was Śiddhaladēvi, the mother of Mallikārjuna was Ponnaladēvi, who must have been two different queens of Praudhapratāpa-Dēvarāya, the second son of Vijayabhūpati.

Our record is dated in Śaka 1389, expressed by the word *nav-aṣṭa-guṇa-bha*, Sarvajit, Kārttika month, bright fortnight, Utthāna-dvādasi. According to Dewan Bahadur L. D. Swamikkannu Pillai's 'Ephemeris,' this date corresponds to Monday, 9th November, A.D. 1467. It may be noted that the stone inscriptions of this king range in date from Śaka 1387,<sup>6</sup> Vyaya to Śaka 1407<sup>7</sup> from which it would appear that he ruled for at least ten years. But the latter date is very doubtful as the record is damaged.

The generals and officers of this king made known to us from inscriptions are Viṭṭharasa, Oḍeya,<sup>8</sup> Sāluva-Tirumalarāya,<sup>9</sup> Sāluva-Narasimha,<sup>10</sup> and Singappa-(or Śingapa-) Daṇḍanāyaka.<sup>11</sup> Of these, Viṭṭharasa-Oḍeya was in charge of Bārakūru and Mangalore which he was governing from Śaka 1387 to 1398. Tirumalarāya was in charge of Trichinopoly and Sāluva-Narasimha developed into a usurper in later years. Two stone records of Virūpāksha in particular are

<sup>1</sup> No. 138 of the Madras Epigraphical Collection for 1889.

<sup>2</sup> No. 63 of the same collection for 1908.

<sup>3</sup> No. 203 ditto 1911.

<sup>4</sup> No. 39 ditto 1890.

<sup>5</sup> No. 661 ditto 1904.

<sup>6</sup> Nos. 180 and 153 of 1901.

<sup>7</sup> No. 398 of 1909.

<sup>8</sup> Nos. 30 and 153 of the Madras Epigraphical Collection for 1901.

<sup>9</sup> *Kōyiloḷugu* makes mention of this chief—see *Ind. Ant.*, Vol. XL, p. 141.

<sup>10</sup> See note 6, below.

<sup>11</sup> Nos. 29 and 153 of the Madras Epigraphical Collection for 1901.

worth mentioning in this connection, of which the one, dated in Śaka 1390, registers a gift by an agent of Śaṅkha-Narasimha, and the other, dated in Śaka 1394, records a gift for the merit of the same chief.<sup>1</sup>

The subjoined inscription registers (i) a gift of land situated to the west of the Hagari river within the boundary of the village of Yammegānūru in Mūḍa-nāḍu, a sub-division of Hastināvati-valita, to a Brāhmaṇa resident of Niṭṭura, the son of Śaraṅgārya, learned in the Vēdas, Sāṅkhya and Mīmāṃsā and reputed as the author of a work called *Bhāṣya-Bhāṣa*; (ii) gift of lands under the tanks called Kṛishṇa-taṭṭaka, Kariyakere and in the village of Chiṭṭukanāhālu to another Brahman named Virūpākshārya, a physician and the son of Rasōśvara; and (iii) gift of the village of Sōmalāpuram, with its name changed into Virūpākshapuram, to a certain Virapārya, who, in turn, appears to have distributed it among Brahmins, dividing it into 60 *vruttis*. The distribution of the full 60 *vruttis* among Brahmins is not given. But it is said that four Brahmins and three others connected with the issue of the copper-plate grant received  $8\frac{1}{2}$  shares. The account for the rest is omitted, but it is evident from the blank space preceding verse 46 that possibly one or more plates containing the names of the rest of the *vrutti* holders, which were intended to be inserted, have not been so done. The description of the boundary marks too, which must have followed this verse, is omitted, as already remarked.

Of the geographical names found in this inscription, Niṭṭura, Chiṭṭukanāhālu, and Sōmalāpura are villages situated in the Bellary taluka; Hastināvati is another name for Ānegondi near Hampi; Yammegānūru is in the Bellary taluka at the place where it borders on Hospet; and the river Hagari bears the same name even now. It is noteworthy that the old name Sōmalāpura is retained at present while its later name Virūpākshapuram given in Śaka 1389 has not survived. *Khāri*, according to the dictionaries, is equal to 3 bushels and perhaps indicates the extent of land by its sowing capacity. The two tanks, Kṛishṇa-taṭṭaka and Kariyakere, must be looked for also in the Bellary taluka.

The composer of the grant was Durga-Bhaṭṭa, son of Mādhavārādhya, who figures also in Ml. 121; and the engraver was the goldsmith Virapārya, son of Muddanārya.<sup>2</sup> This engraver is perhaps identical with Virapārya, the father of Mallapa, who incised the inscription Ml. 121.

[The following metres are employed: vv. 1-3, 5, 7, 11, 14, 15, 17, 20-53, *Anuṣṭubh*; vv. 4, 10, *Sāradalavikṛīḍita*; vv. 8, 12, 13, 16, 19, *Upajāti*; vv. 6 and 18, *Upēndravajrā*; v. 9, *Malini*; and v. 54, *Sālini*.]

#### TEXT.

##### First Plate.

- 1 श्रीगङ्गाधिपतये नमः । नमस्तु(स्तु)गति(गि)रक्षुविचंद्रचामरचारवे । जे-
- 2 लोचनगरारंभमूलस्तंभाय शंभवे ॥ [१\*] रक्षायै जगतां भूयादद्याकुर्वि-
- 3 रदाननः [१\*] पायक्रोडाविधौ यस्य पश्वन्ति पयोधयः । [२\*]  
नमःस्तु(स्तु)रमे(मे) वरा-
- 4 दाय यद्वानाकमूर्धनि । सप्तद्वीपवतो पृथ्वी लोलाङ्गश्चौरदृष्ट(ष्ट)तः<sup>4</sup> । [३\*]

<sup>1</sup> No. 79 of the Madras Epigraphical Collection for the year 1919 and No. 188 of the same collection for the year 1902.

<sup>2</sup> The Śrīraṅga plates were also incised by the same person (see above, Vol. XV, p. 19) where the name of the person occurs as Virapāchārya, son of Muddanāchārya.

<sup>3</sup> Cancel the *visarga*.

<sup>4</sup> Omit the *visarga*, लोलाङ्गश्चौरदृष्ट is the reading in Ml. 121.

- 5 'सखि(सि) श्रीकमलाजयाशुजतया दीप्यमानमंडले नखवाधियति[:\*] म०  
 6 भाभिरनिसं(यं) दि[सं]डलोकासक्त[त्] [१\*] श्रीरात्रिप्रभवः कलानिधिरि-  
 7 ति स्वातसु(सु)धासु(यु)[:\*] च(स्य)यं ।<sup>१</sup> मोक्षो यत्न(स्य) विभूतस्त्वन्मम-  
 च्छभोभवा-  
 8 नीपति[:\*] ॥ [३\*] वक्षि(ये) तस्यैव संजातो यदुर्नाम नक्षीपतिः [१\*]  
 यक्षंस(य)जेन भू-  
 9 [रि]षा वासुदेवेन पालिता । [५\*] यत्किंस्त्वंगरजिह्व(त्य)भंगुरमरं प्रत्यर्षिपृथ्वी-  
 10 भूमां 'साध्वी(र्षि)र्भगसुपागतैरपि नता दिक्षुडलो संभ्रमा[त्\*] । तत्कोत्तिर्भि-  
 11 वरोधुं गच्छति पुरी दिङ्मायवृंदैश्चही सङ्गतः यथिमौकिमंडन-  
 12 मणि[:\*] शो(सो)भूत(सु)पः सनमः ॥ [६\*] ततोभूतभूपातः सर्वभूय-  
 कुलाग्रणी[: १\*]  
 13 यत्प्रतापानले सर्व(र्षि) यतर्गत्यरिभूतः ॥ [७\*] कर्नाटखली[:\*] सविज्ञास[मा]-  
 14 स यत्किंस्त्वंहीपे महनोयकीतो(र्त्तो) [१\*] भूमिस्त्वयैवाप' वसुंधरात्वं क्षिरेति नाम  
 15 प्रथमं गुणोपे<sup>२</sup> ॥ [८\*] उदयमुद[य\*]रैलादुच्यदुहामतेजा[:\*] यत्न(स्य)धर  
 इव बू(सु)क्ष्मा-  
 16 'भूतःस्त्वंगमौलि । हरिहरनरपालः प्रापदास[ि](शा)[:\*] समस्या(स्ताः) करधृत-  
 वसुधूरे[:\*]  
 17 पूरयन् पूर्यधामा ॥ [९\*] धिनाकारि कली(लिः) कृताधिकतरो वेने(नै)व  
 [चं]द्रापत(य): क-  
 18 सर्व(त्र)क्षपथोजनो(नि)<sup>१०</sup> प्रस(स्य)मितायेजीयसर्गः परा(रं) [१\*] धिनाभोनिधि-  
 मेखला वसु-  
 19 म[तो] ध]र्मेण संरक्ष(स्य)ते तस्यामेकदिगीस(य)पालि[त]<sup>११</sup>यशोर्विबस्य कीनो-<sup>१२</sup>  
 20 पम(मा) ॥ [१०\*] [मे]कादेवीति विख्याता श्रीपार्वत्योस्तु मेकना[त्\*]  
 सासीज्जाया<sup>१३</sup> मक्षीभर्तु[:\*]

<sup>१</sup> Ml. 121 has सखि,<sup>२</sup> Delete the punctuation.<sup>३</sup> जिह्व is also the reading in the Kannada-text of Ml. 121 (see p. 203 of *Ep. Carn.*, Vol. III); but it is read as जिह्व in the romanised text given on p. 185. Read यत्किं स्त्वं वरः<sup>४</sup><sup>४</sup> Read 'वरः'.<sup>५</sup> 'सर्व' is the variant given in Ml. 121.<sup>६</sup> Read वरिषु.<sup>७</sup> 'साध्या' is the reading in Ml. 121.<sup>८</sup> गु is a correction from पु; read गुणीर्षिः.<sup>९</sup> Read भूतसुखमौलि.<sup>१०</sup> सु is a correction from व.<sup>११</sup> Ml. reads पयोजनी.<sup>१२</sup> The Kannada text of Ml. 121 has सेनीपमा (p. 203 of *Ep. Carn.*, III) and the romanised text has *senipama* (*ibid.*, p. 185).<sup>१३</sup> Another variant of this is सासीहार्वा which is found in Ml. 121.



- 21 स[र्वार्थ] पुष्पकचया ॥ [११\*] इंद्रः कर्णोप परिहर्षकामो भूमावधीका(य) प्र-  
 22 तिपन्न[रूपः] [1] प्रतापपूर्व[\*] किल देवरायः प्रतापतो भूमिमपालय-  
 23 [सः 1] [१\*] प्रतापवन्दो परिहर्षमनाधि युष्माकुसुष्का अपि यस्य  
 राज्ञः [1\*] रि-

*Second Plate; First Side.*

- 24 पुचितीश[१\*]स निरस्तधेयाः कातारवर्षमीककतात्मरथाः ॥ [११\*] तस्य देमावि-  
 25 काभर्तुः पुनः शत्रुप्रमर्दनः [१\*] विद्यानिधिर्विशेषज्ञो वीरो विजयभूपतिः [॥ १४\*]  
 26 तस्य नारायणीदेव्या प्रादुससोद्यग्रोधनः । प्रौढप्रतापविभवः प्रता-  
 27 पाख्यो महीपतिः ॥ [१५\*] गुणेर(र)नेकौ वनोतकेक्षिन्<sup>१</sup> न्विराजमानक्षु-  
 28 कतासकीर्त्तिः [\*] निजाग्रजात् प्राप्तघनाद्विराज्यः सार्यकितार्थिपु-  
 29 जपारिजातः ॥ [१६\*] तस्य शिहलदेवीति भार्या सर्वगुणाश्रया ॥  
 30 लक्ष्मीना(र्ना)र[१\*]यणसे(खे)व स(श)[वी]व<sup>२</sup> नमुचिचिषः ॥ [१७\*] तस्य  
 सि(ग्रि)वः प्रादुरभू-  
 31 हुणाख्यो नाका विरुपाक्ष इति प्रसिद्धः [१\*] राजाधिराजः क्षितिपा-  
 32 लमीडि[र्व]दाभ्यमूर्त्ति(र्त्ति): कश्चिद्विधुः ॥ [१८\*] मिजप्रतापा[द]धि[ग]-  
 33 त्य राज्यं समस्तमाग्ने[\*] परितैक्ष्यमानः [१\*] खड्गा(का)घतः<sup>३</sup> सर्वरिपूम्नि-  
 34 जित्य स मोदते वीरविलासभूमिः ॥ [१९\*] पु(कु)टिकाभालनेवी(त्रे)ति वि-  
 35 ख्यातः प्रतिपं(प)कधीः । मूरारयरगंडांकः पररायभं(भ)यंकरः [१\*]  
 36 हिंदुरायसुरबाण इत्यादि विह[दो]धतः ॥ [२०\*] तुंगमद्रागदीती-  
 37 रे ।<sup>१०</sup> विरुपाक्षस्य संनिधौ [१\*] पित्र्य<sup>११</sup> सिंहासनं प्राप्य पासवन्न(न)-  
 वनीमिमां ॥ ५१\* पुं(पु)-  
 38 ख्यलोकाग्रग(ग)ण्योसौ विरुपाक्षक्षितीख(ख)रः । धर्मस्थानगते[ः]  
 39 सङ्गिः संयुतो<sup>१२</sup> धरणीसुरैः<sup>१३</sup> ॥ [२१\*] शालिवाहननिर्णीतशकच-  
 40 धर्ममार्गते । न[वाष्ट]पुष्पभूयुक्ते सर्वजित्सुरे शुभे ॥ २२\* आसि कार्ष्णिक-

<sup>1</sup> Perhaps the correct reading is सुखेया or सर्वार्था; Ml. 121 has अनर्था.

<sup>2</sup> Ml. 121 has वंश; read प्रतापवर्द्ध.

<sup>3</sup> Read कर्तार°.

<sup>4</sup> Read ह्य्या°.

<sup>5</sup> Cancel न.

<sup>6</sup> See note 8; p. 4; above.

<sup>7</sup> Ml. 121 has सिंहासदीवी.

<sup>8</sup> सची नमुचिचिषः is the reading in Ml. 121.

<sup>9</sup> The variant found in Ml. 121 is संसामतः.

<sup>10</sup> Cancel the *danḍa*.

<sup>11</sup> दिव्य is the reading that occurs in Ml. 121.

<sup>12</sup> संयुक्ती is another variant found in Ml. 121.

<sup>13</sup> The Kannaḍa text of Ml. 121 has धरणीसुरैः, but the romanised text reads correctly सुरैः.



- 41 विख्याते सिते पञ्च[क्षे] विशेषतः । उत्थाना(न)द्वादसी(शी)पुष्पां(क्ष)काक्षे  
चापि नृपी-  
42 त्तमः [1] [२४\*] राजाधिराजः<sup>१</sup>स्तेजस्वी यो राजपरमेश्वरः [1] [वि]रूपाक्ष-  
चितीशो-  
43 ध(य) धर्मबुद्ध्या युतः सुधीः । [२५\*] आचयेयाय <sup>२</sup>इगधीने निहुरस्त्रसवाति-  
44 ने । सां(सा)रंगार्यसुतायाय सर्वशास्त्रविदे तथा । [२६\*] भाष्यभूषाक[रा]-  
45 याय सांख्यामोमांसवेदिने । <sup>३</sup>सौवशास्त्रप्रवाणोय चतुष(ष्व)ष्टिकका(क्षा)-  
46 नि(वि)दे । [२७\*] षडंगसहितं वेदं वेदार्थं वेत्ति भूसुरः [1\*] तस्मै  
द्विजाय भू-  
47 [पालो] हस्तिनावतिवक्रितगं(गां) । [२८\*] मूडनाडस्थितं(तां) चैव हगरे[ः\*]  
प[चि]-

*Second Plate ; Second Side.*

- 48 मे स्थितं(तां) । यमेगेनूह सोऽन्ये<sup>४</sup> ।<sup>५</sup> खारो भूमिं महीपति[ः] ॥\* [२९\*]  
प्रादात्तया च स(म)हि-  
49 तं क्षेत्रं सस्यफलप्रदं ॥ [२९\*] भारद्वाजाय विदुषे ।<sup>६</sup> रसेश्वरसु-  
50 ताय च । विरूपाक्षार्यभिव्रजे <sup>७</sup>रुद्रशास्त्रां(क्षा)ध्या[यि]-  
51 ने तथा ॥ [३०\*] खारिसप्तप्रमाणं च [त]टाके क्षणसंज्ञिते[1\*]  
करियकेरैर्ये-  
52 ति विख्याते खारिचयमितां भुवं । [३१\*] चिटुकनाडाकु नाम्नेव  
खारिचयमितां  
53 भू(भु)वं । मित्रित्वा खारिसंख्यां(ख्या) च चयोदश सुविमुता ॥ [३२\*] च(त)नस्यं  
ग्राममेकं तु सो-  
54 मलापुरनामकं [1\*] अस्माकं भो विरूपाक्षमहीनाय ददस्व नः<sup>८</sup> । [३३\*] इ[ति]  
55 विज्ञाप्य भूभर्तुर्विरूपा[क्ष]महीपते[ः] 1\* वि(वो)रणायै[ः\*] स्वयं सन्वा(दध्वा)  
ग्रामं<sup>९</sup> चा[च]  
56 महीस्व(श्व)रात् ॥ [३४\*] शृ(श्रु)त्वा विज्ञापनं तस्य विरूपाक्षमहीपति[ः\*] ।  
[३५\*] निधिमिच्छे-

<sup>१</sup> Delete the *risarga*.

<sup>२</sup> Read *क्ष*.

<sup>३</sup> Read *क्ष*.

<sup>४</sup> Either the word *चक्ष्माकं* or *नः* should be cancelled ; otherwise there would be redundancy.

<sup>५</sup> We should have expected *दीरवादे* च संज्ञायै दानायामः. For the pleonastic use of the words *महीपते*; and

*महीचरात्* see above, note 1.

<sup>६</sup> Read *महेशास्त्रप्रवीणाय*.

<sup>७</sup> Cancel the *danḍa*.

<sup>८</sup> The *ś* of *दे* seems to have been erased in the original.

- 57 यत्संयुक्तं जलपापाणमिच्छितं । अचिच्छागामिसंयुक्तं ।<sup>1</sup> सिद्धसाध्यस-  
 58 मन्वितं । [१६\*] अष्टभोगैश्च संयुक्तं कुल्यारामममन्वितं । [१\*] समस्तवक्सिंयु-  
 59 क्तं सर्वमान्यं फलप्रदं । [१७\*] तुंगभद्रानदीतीरे विरूपाक्षस्य सं(स)न्निधौ [१\*]  
 60 सद्गिरं(र)च्छोदक(कं) दानधारापूर्वं यथाविधि [॥१८\*] विरूपाक्षपुरं चेति-  
 61 प्रतिनाम त्रिधाय च ॥ भोक्तुं दातुं द्विजेभ्यश्च प्रादादा[चंद्र]तारकं । [१९\*]  
 62 सोपि द्विजश्च संतुष्टः[\*] संयुतः परया सुदा [१\*] अकर्करं(रो)दायिषं रात्रे  
 चिरं-  
 63 जीवी भवत्विति ॥ [४०\*] गोचं प्राप्त्वा पितुर्नाम द्विजानां च यथास्मितं [१\*]  
 लिख्यं-  
 64 ते वृत्तिसंख्याच षष्टिसंख्या यथाक्रमात् [॥ ४१\*] श्रीवत्सो 'रुगधीतश्च [चेम]-  
 65 चार्यसुतः सु(सु)धीः [१\*] मन्निभदेति विख्या(ख्या)तो वृत्तिमेकामिहान्युते ॥  
 [४२\*] वासि-  
 66 षो(षो) रुगधीतश्च<sup>४</sup> वत्सभदसुतः सुधीः[\*] । [दु]र्गभदेति<sup>५</sup> विख्यातो  
 वृत्तिमे[का]मिहान्यु-  
 67 ते ॥ [४३\*] हारोतो<sup>६</sup> रुगधीतश्च हंपणार्य[सु]तः सुधीः[ ] [१\*] [सारंगार्यश्च  
 वि]ख्यातः[\*] सार्ध[मेक]-  
 68 . [स]ः [॥ ४४\*] आचयेथ रुगध्येत भायणा[र्य]स्य [नंदन]ः [१\*] भायिभदो  
 द्विजत्रेष्टो(षो) वृत्ति-  
 69 [द्वयमि]हान्युते ॥ [४५\*]

Third Plate.<sup>७</sup>

- 70 भैस्त्री[स](स्त्र)मन्वितश्चिन्ने<sup>१०</sup>दि-  
 71 च प्रास्या(प्या)दिषु क्रमात् [१\*] सोमानीश्या(स्या)प्रहारस्य लिख्यंते  
 देव(ग्र)भाषया [॥ ४६\*]  
 72 वासिष्टो(षो) वं(व)व्व(वृ)चो विद्वान्  
 73 ऐतयार्यसुतः सुधीः [१\*] वत्सभो रायसम्भा(स्वा)मि(मी) वृत्ति<sup>११</sup>मेकामिहान्युते ॥  
 [४७\*]

<sup>१</sup> Cancel the *danḍa*.<sup>२</sup> च is a correction from सु.<sup>३-४</sup> Read वत्सधीतश्च.<sup>५</sup> Read 'भद' इति.<sup>६</sup> Read वत्सधीतश्च.<sup>७</sup> Read वत्सभदेति.<sup>८</sup> At the top of this plate, a little below the right side of the ring-hole, is the letter *ri* which I am not able to explain.<sup>९</sup> The line begins about the middle of the plate.<sup>१०</sup> Like वन्नी in line 23 वी is written with a preceding *an*. The grammatically correct form would be *vice versa*.<sup>११</sup> The two syllables मेका are written over an erasure.

- 74 खट्वा श्रीमुह्यवायसुतः प्राज्ञनक्षि[स]काः [1\*] श्रीरवा सुगुणो धीमान् [न]  
 75 वृत्तिनेकामिहानुते ॥[४८\*] जाचेयो यासुणो धीमान्माधा(ध)वाराधनं-  
 76 नः [1\*] <sup>1</sup>प्राज्ञनः<sup>2</sup> र्षवक्षद्विहान् दुग्गा(र्गा)भटोव वृत्तिभाक् ॥[४९\*]  
 दानपाल[नयो]-  
 77 र्मध्वे दानाण्ये(ण्ये)योनुपालनं [1\*] दानास्व(त्स)र्ममवाप्नोति पालनादसु(सु)तं  
 78 पद ॥[५०\*] स्वदत्तादि(हि)गुणं पुं(पु)ण्यं परदत्तानुपालनं [1\*] परदत्ताप[हारि]-  
 79 ण स्वदत्तं निष्फलं भवेत् ॥[५१\*] स्वदत्ता(त्ता) <sup>2</sup>परदत्ता वा यो हर(रि)त  
 वसुं-  
 80 धरां । षष्टिर्व[स]हस्राणि विष्टायां जायते त्रि(क)मि[:\*] ॥ [५२\*]  
 एकीव भगि-  
 81 नी लोके सर्वेजानिव भूभुजा [1\*] न भोण्या न ख(क)रवाहा(द्या)  
 विप्रदत्ता [वसुं]-  
 82 धरा ॥ [५३\*] सामान्योयं धर्मसेतुं<sup>4</sup>नृपाणां कालि कालि पाल[नीयो]  
 भवद्भि[:] [1\*]  
 83 सर्वाने[ता]न् भाविनः पार्थिवेद्रान् भूयो भूयो याचते राम[चंद्रः] ॥[५४\*] श्री[॥\*]  
 84 Śrī-Virūpākṣa.<sup>5</sup>

## TRANSLATION.

(Line 1.) Obeisance to Gaṇādhīpati.

(V. 1.) Invocation to Śiva [by the common verse *namas=tuṅga*, etc.].

(V. 2.) May the merciful elephant-faced (god), in the course of whose water-sport the oceans become (mere) ponds, protect the worlds.

(V. 3.) Salutation to that boar, at the tip of whose stalk-like snout, the earth, comprising the seven islands, seemed (to possess the beauty of) a lovely lotus.

(V. 4.) There is the Lord of stars (i.e. Moon), the younger brother of her who resides in the lotus (i.e. Lakṣmi), who shines in the region of the firmament with his (lustrous) ray and constantly illuminates the quarters, who is born of the milk-ocean and is renowned as the depository of *kalas* (digits), himself being made of nectar rays and who has obtained the position of a jewel in the head of Śambhu, the consort of Bhavāni (i.e. Pārvatī).

(V. 5.) In his family was born the king named Yadu; and this world was protected by Vāsudēva who was born in that family.

(V. 6.) There was king Saṅgama of good conduct, wearing Śaśimatuli (Śiva) as an ornamental jewel; on whose victory in battles, the crowds of enemy kings heavily burdened (with numbers) though vanquished reach the cardinal points in great haste; (but) whose (i.e., the King's) fame moves further on (passing) through intervening spaces amidst lords of the (eight) directions.

<sup>1</sup> Cancel the *visarga* after *ः*.

<sup>2</sup> The rest of this line and the next line up to वृत्तिभिः are written on an erasure.

<sup>3</sup> Read °वर्षं°.

<sup>4</sup> Read °सेतुं पा°.

<sup>5</sup> In Kāṇvaśa characters.

(Vv. 7 and 8.) Then came king Bukka, the foremost of the kingly race, in the fire of whose valour the hostile rulers were consumed as moths. In this king of great fame, the goddess of prosperity of the Karnāṭa (kingdom) rested with pleasure. And the goddess of the earth also for the first time realised the (significance of her) names *Vasundharā* and *Śhīrā* on account of her qualities of bearing wealth and remaining permanent.

(V. 9.) Like the moon of bright lustre rising from the Udaiya-Śaila of lofty peak, king Harihara of rising full glory took his birth from king Bukka who wore a splendid crown and filled all the quarters with abundant wealth acquired by taxation as the moon with the exuberent lustre of his rays.

(V. 10.) What could stand comparison with him the reflection of whose fame is protected by the deities of the quarters, by whom the (stern) Kali age has been turned into one better than the (golden) Kṛta age; by whom was caused the highway of the school of philosophy which considers Duty (*Karma*) as god. (Brahmā) free of all obstacles, and by whom the earth, having for (its) girdle the oceans, was ruled with justice.

(V. 11.) She, who was called *Māṣādēvi* because she was a combination of Śrī (i. e. Lakshmi) and Pārvatī and was in every way possessed of auspicious marks, was the consort of this king.

(Vv. 12 and 13.) Indra, desirous of removing his stains, obtained on earth the form of this (king) and in the name of *Dēvarāja*, with *Pratāpa* prefixed to it, ruled the world with his prowess. In the glowing fire of this king's valour, the Turushkas were scorched up and (other) hostile monarchs, with (their) bravery lost, sought self-protection in forests and ant-hills.

(V. 14.) The son of this husband of *Dāmāmbikā* was *Vijayabhūpati*, the destroyer of his enemies, the store-house of learning, of supreme knowledge and a hero.

(Vv. 15 and 16.) To him, through *Nārāyaṇīdēvi*, was born the king called *Pratāpa*, renowned as *Praudhapratāpa*, who had fame for wealth. He shone on this earth with many virtues, obtained fame by meritorious deeds, got the (kingdom) of *Ghaṇādri-rājya* from his (uterine) elder brother and was a *Pārijāta* in granting their desired objects to crowds of mendicants.

(V. 17.) His wife was *Siddhaladēvi*, the resort of all good qualities, like Lakshmi to *Nārāyaṇa* and *Śachi* to the enemy of *Namuchi* (i. e. Indra).

(V. 18.) Śiva (himself) was born of her under the well-known name of *Virūpāksha*, full of good qualities, a *rājādhirāja*, the head-ornament of kings, a munificent person and the one ocean of mercy.

(V. 19.) Acquiring the kingdom through his own prowess, attended with all kinds of prosperity, and conquering all his enemies with the point of his sword, he, as the play-ground of heroism, rejoices.

(V. 20.) He who is renowned as *Chhurikā-Bhālanētra* (i. e. Śiva in wielding the sword) and ripe of wisdom holds the high (sounding) titles, such as *Mūrudāyaraṇḍa*, *Paratāya-bhayaṅkara* and *Hindurāyasuratṛpa*.

(Vv. 21 to 29.) On the bank of the *Tuṅgabhadra* river (and) in the presence of (the god) *Virūpāksha*, having obtained his ancestral throne, this king *Virūpāksha*, the foremost (among those) possessing noble virtues, rules the earth, surrounded by pious *Brāhmaṇas* assembled in his court. In the course of the Śaka years determined by the *Śālivāhana*-[Era], in the excellent year *Sarvajit* (corresponding to the year) expressed by *nine, eight, guṇas* (three) and *bhū* (one) (i. e. 1389), on the auspicious occasion of *Uttānadvādasi*, in the bright half of the month of *Kārttika*, he, the best of kings, the wise *Virūpāksha*, a *rājādhirāja* (and) *rājaparamēśvara*, of great valour, with the intention of making charity, made a grant to a *Brāhmaṇa* resident of *Nittura*, who was the son of *Saraṅgārya*, who belonged to the *Ātrēya*-[gōtra], and was a student of the *Rik*-[Śakha], who was well versed in all the *Śāstras*, who knew the sixty-four arts

as well as the Sāṅkhya and the Mīmāṃsā (systems of philosophy), who was learned in the Vēdas and the six *aṅgas* (branches) with their meaning, and who was the author of the *Bhāṣya-Bhāṣā*, of (one) *khāri* of land situated to the west of the Hagari (river), within the boundary of (the village of) Yammegēṇṛu in Māḍa-nāḍa and in (the sub-division of) Hastināvati-vaḷita.

(Vv. 30 to 32.) Again he gave to the scholar and physician Virūpākshārya, son of Rasśvara of the Bhāradvāja-[*gōtra*] and a student of the Rik-Śākḥā, 7 *khāri* of valuable land yielding grain and fruit under the tank called Kṛishṇa, 3 *khāri* of land under (the tank) known as Kariya-kōre and of 3 *khāri* of land in (the village) called Chitukanāhāḷu—thus in all, the number of 13 *khāris*.

(Vv. 33 to 39.) Having petitioned thus to king Virūpāksha “Oh! King Virūpāksha! grant me the village situated there named Sōmalāpura”, Virapārya obtained from the king the (said) village. On hearing the request, king Virūpāksha made, in the presence of the god Virūpāksha on the bank of the river Tuṅgabhadrā, a *sarvamānya* gift with gold and water, accompanied by libation of water as laid down by rule, of the fertile village (Sōmalāpuram) with all its royal revenue<sup>1</sup>, together with canals and gardens, with its name changed into Virūpākshapuram,—for being enjoyed as long as the Moon and the Sun endure, or for being given away to Brāhmaṇas,—together with the eight kinds of enjoyment, i.e. (the right to own) the *nidhi*, *nikshēpa*, *jala*, *pāshāṇa*, *akṣhiṇi*, *āgāmi*, *siddha*, and *sādhyā*.

(V. 40.) The Brahman too, pleased and overpowered with joy, blessed the king with long life.

(V. 41.) (Here) will be written, in order, the *gōtra*, *śākḥā* and the father's name and the names of the Brahman. The number of *vr̥ttis* (who received shares in the village) is sixty.

(Vv. 42 to 45 contain the names of four of these donees.)

Verses.	Name of the donee.	Father's name.	Gōtra.	Śākḥā.	Number of <i>vr̥ttis</i> owned.
42	Malli-Bhaṭṭa . . .	Hēmaṇārya . . .	Śrīvata . . .	Rik . . .	1
43	Durgā-Bhaṭṭa . . .	Vallaṇ-Bhaṭṭa . . .	Vāsishṭha . . .	Do. . .	1
44	Sāraṅgārya . . .	Hampaṇārya . . .	Hārīta . . .	Do. . .	1½
45	Bhāyi-Bhaṭṭa . . .	Bhāyaṇārya . . .	Ātrēya . . .	Do. . .	2

(V. 46.) The boundaries of this Brahman village (*agrahāra*) with their respective marks are written (below) in the language of the country, in the four directions commencing with the east, in order.

(V. 47.) The wise and learned Vallabha, son of Aitayārya, and the chief of the Secretaries (*Rāyasa*) belonging to the Vāsishṭha-[*gōtra*] and the Bahvricha-[*Śākḥā*], holds one *vr̥tti* (in this village).

(V. 48.) The intelligent smith Virapa of virtuous qualities, (who was) the engraver of this document and the son of the prosperous Muddapāchārya, holds one *vr̥tti* (in this village).

(V. 49.) The learned and intelligent Durgā-Bhaṭṭa of the Ātrēya-[*gōtra*] and the Yajus-[*Śākḥā*], the composer of this document and the son of Mādhavārādhyā, owns one *vr̥tti* (in this village).

(Vv. 50 to 54.) [Five of the usual imprecatory verses.]

(Line 84.) *Śrī-Virūpāksha*.

<sup>1</sup> The word अग्र has perhaps to be corrected into अग्नि

## No. 15.—THE BRAHMA-SIDDHĀNTA OF BRAHMAGUPTA, A.D. 628 :

## MEAN SYSTEM.

BY ROBERT SEWELL (I.C.S., RETIRED).

(Continued from Vol. XVII, p. 187.)

321. The Tables published in my last article (*above*, Vol. XVII) enabled the dates of ancient Indian inscriptions and records to be verified according to the requirements of the *Brahma-Siddhānta* with, as basis of calculation, the "true" or apparent motions of sun and moon. This mode of reckoning appears to have been introduced in the 11th century A.D. But the *Brahma-Siddhānta* was composed in A.D. 628 and for at least four centuries after its appearance details for the Calendar were almost certainly based on mean planetary motions; while it is believed that this mean system continued to guide the preparation of *pañchāngas* (almanacs) till a much later date—perhaps for several centuries in some parts of the country.

For the correct verification, therefore, of early dates it is necessary for historians to be provided with a set of Tables based on mean planetary motions and the postulates of the *Brahma-Siddhānta* in addition to those based on mean motions and the postulates of the *Ārya-Siddhānta*. The latter were provided in a previous article in this volume. The former are presented herewith. They cover a period of 800 years, from K.Y. 3700 to 4500, or from A.D. 599 to 1400.

The system of work is the same as in all my previous Tables, that is to say, it is the system of Largeteau as adopted by Professor H. Jacobi in the *Indian Antiquary*, Vol. VIII, and in the *Epigraphia Indica*, Vol. XI. Full examples shewing the method of work, which is very simple, are given in my former articles; others, specially concerning the system of mean reckoning on *Brahma-Siddhānta* principles, are given below.

In case of doubt as to which of the Tables already published should be used in the present case attention is directed to the accompanying § 329.

322. In examining the dates of records in earlier years it is necessary to remember that the modes of reckoning adopted were not always the same as those used in more recent years. As to eras, reference to articles 6-12 of my former work, *Indian Chronography*, is recommended. For other matters the late Dr. J. F. Fleet's remarks in the *Journal of the Royal Asiatic Society* for 1912, pp. 704-5, will be found very valuable.

Especially let it be borne in mind that the lunar month reckoning in early years was probably carried out on the *pūrṇimānta* system. According to the late Professor Kielhorn the earliest known date certainly in *amānta* reckoning belonged to the year A.D. 794. It is contained in the Paithān plates of the Rāshtrakūṭa king Gōvinda III (*Epig. Ind.*, III, 105; *Ind. Ant.*, XVII, p. 142, No. 9). As regards these two systems, the *amānta* and *pūrṇimānta* names of lunar months, see *Indian Calendar*, §§ 13, 45 (with Table on p. 26), 47, 51, and the late Saṅkara Balkrishna Dikshit's footnote on p. 31; also *Indian Chronography*, §§ 75, 76, p. 31.

*Elements of the Brahma-Siddhānta mean reckoning.*

323. The principal elements are fully stated in my former article on this authority (*above*, Vol. XVII, § 313). For calculation on the mean system the following notes are necessary.

(i) The length of the mean sidereal solar year is  $365^d\ 6^h\ 12^m\ 9^s$ , a fixture afterwards adopted by Bhāskarāchārya in his *Siddhānta-Siromani*, A.D. 1150.

(ii) The advance of  $a$  (distance of mean moon from mean sun)—which finally fixes the index of the *tithi* ( $\frac{1}{30}$ th of a mean lunation) in measurement by 10,000ths of circle—in every civil day of 24 hours and in hours, minutes and seconds, has already been given for the *Siddhanta-Sirāmaṇi* in Tables LIV, A and B (*above*, Vol. XV). These Tables are applicable to the *Brahma-Siddhānta*.

(iii) For the sun's mean motion per day, hour, minute, etc., see Tables XLIII and XLIV (*above* Vol. XIV).

(iv) The advance of  $a$  in one mean solar month is, in 10,000ths of circle, 307·349156595.

(v) Each solar month consists of  $30^d 10^h 31^m 0^s 75$ . Table XCI below shows the interval of days, hours, etc., between the moment of mean *Mēsha-samkrānti*, when the mean sun is at celestial long.  $0^\circ$  (Table XC, cols. 13-17), and the moment of each subsequent *samkrānti* when the mean sun enters each of the twelve signs; and so enables the day and time when each mean solar month begins to be ascertained. The same Table gives the advance of  $a$  from its value at the moment of mean *Mēsha-samkrānti* to the same at each subsequent *samkrānti*.

(vi) The interval between the moments of true and mean *Mēsha-samkrānti*, i.e. between the moments of the astronomical beginning respectively of the true and mean solar year, which interval we call the *śodhya*, varies slightly year by year in consequence of the postulated shift of the sun's apsis (§ 313, VII, *above*). The exact intervals, century by century from K.Y. 3700 to 4800, were given above in § 315. The Table is here repeated and extended so as to embrace the whole period of the general Table XC below. The quantities were computed by Dr. Robert Schram.

TABLE B.

(*above*, p. 126.).

VALUE OF *śodhya* BY THE *Brahma-Siddhānta*.

Kaliyuga	A.D.	ŚODHYA AT BEGINNING OF CENTURIES.				
		D.	H.	M.	S.	Days and decimals.
3700	599-600	2	4	8	59.8128	2.1729145
3800	699-700	2	4	9	20.160	2.1729400
3900	799-800	2	4	9	4.2192	2.1729655
4000	899-900	2	4	9	6.4224	2.1729910
4100	999-1000	2	4	9	8.6256	2.1730165
4200	1099-1100	2	4	9	10.8288	2.1730420
4300	1199-1200	2	4	9	13.0320	2.1730675
4400	1299-1300	2	4	9	15.2352	2.1730930
4500	1399-1400	2	4	9	17.4384	2.1731185

*The moment of mean Mēsha-samkrānti, or the beginning of the mean solar year.*

324. The general Table which follows (Table XC, cols. 15-17) states the moment of beginning of each mean solar year according to the *Brahma-Siddhanta*. The first entry is for the expired year 3700 of the Kaliyuga (A.D. 599-600), in which year the astronomical beginning is fixed as at 5<sup>h</sup> 15<sup>m</sup> after mean sunrise on Saturday, 21 March, A.D. 599. It is incumbent on me to prove the correctness of this fixture. Subsequent entries are based on it by the addition to it year by year of 365<sup>d</sup> 6<sup>h</sup> 12<sup>m</sup> 9<sup>s</sup>. Proof may be offered in three ways:—(A) by comparison with the date and time already found for the beginning of the true solar year K.Y. 3700, utilizing Dr. Schram's determination of the interval between the two occurrences; (B) by comparison with the date and time fixed for the beginning of the same mean solar year according to the *First Arya-Siddhanta*, allowing for the time-difference between the two authorities caused by their different estimate as to the length of the mean solar year, viz. 21<sup>s</sup>; (C) by direct computation from the moment in K. Y. 0 of mean Mēsha-samkrānti, 3,700 years earlier, which, according to the *Brahma-Siddhanta* (§ 313, v, above), was exactly at mean sunrise, or 0<sup>h</sup> 0<sup>m</sup> 0<sup>s</sup> Lankā time, on Friday, 18 Febr. (B.C. 3102).

## A

			<i>h.</i>	<i>m.</i>	<i>s.</i>
Moment of true Mēsha-samkrānti in K.					
Y. 3700 (A.D. 599) (Table LXXXII, Vol. XVII, above).	(5) Thur., 19 Mar.		1	6	0.1872
Sodhya as above (§ 323, Table) . . . . .	+ (2)	2		4	8 59.8128
Moment of mean Mēsha-samkrānti . . . . .	(0) Sat., 21 Mar.		5	15	0

## B

[See *Indian Calendar*, Table I, cols. 13-17, for A.D. 599-600.]

			<i>h.</i>	<i>m.</i>	<i>s.</i>
True Mēsha-samkrānti by <i>Ārya-Siddhanta</i> . . . . .	(5) Thur., 19 Mar.		23	17	30
<i>Ārya-Siddhanta</i> sodhya . . . . .	+ (2)	2		3	32 30
Mean Mēsha-samkrānti by <i>Ārya-Siddhanta</i> . . . . .	(1) Sun., 22 Mar.		2	50	0
Less Time-difference in 3,700 years <sup>1</sup> . . . . .				—21	35 0
Mean Mēsha-samkrānti by <i>Brahma-Siddhanta</i> . . . . .	(0) Sat., 21 Mar.		5	15	0

## C

The epoch of the Kaliyuga was 0<sup>h</sup> 0<sup>m</sup> 0<sup>s</sup> Lankā time, or exactly at mean sunrise on Friday. The length of the mean solar year being 365<sup>d</sup> 6<sup>h</sup> 12<sup>m</sup> 9<sup>s</sup>, the beginning of the next mean solar year took place 6<sup>h</sup> 12<sup>m</sup> 9<sup>s</sup> after mean sunrise; and after the expiration of a century from the epoch the mean solar year began at 20<sup>h</sup> 15<sup>m</sup> 0<sup>s</sup> after mean sunrise; so that after 37 centuries had passed the mean solar year K.Y. 3700 began at 5<sup>h</sup> 15<sup>m</sup> 0<sup>s</sup> after mean sunrise.

When this latter calculation is carried out century by century, the figures shew that centuries 6, 12, 19, 25 and 32, five in all, were defective centuries consisting each of 36,525 days, the remainder being common centuries of 36,526 days. Since 36,526 divided by 7 leaves no

<sup>1</sup> See Table, § 273, in Article on the *Siddhanta-Sirōmuni* (Vol. XV above), which is equally applicable to the *Brahma-Siddhanta*; or refer to *Indian Chronography*, p. 61. The time-difference in 3,000 years is 17<sup>s</sup> 30<sup>m</sup>, in 700 years 4<sup>s</sup> 5<sup>m</sup>, total 21<sup>s</sup> 35<sup>m</sup>.



remainder and 36,525 divided by 7 leaves remainder 6, the results show that whereas century 0 began on a Friday, century 37 began on a Saturday.

Table XC therefore, as regards the moment of mean *Mēsha-samkrānti* in K.Y. 3700 expired, A.D. 599-600, is proved to be correct.

*The beginning of the mean luni-solar year, i.e. the civil day on which the tithi Chaitra sukla 1 expired; and the value of a (mean tithi-index) at mean sunrise of that day. Amānta system.*

325. In § 317 of my article on the *Brahma-Siddhānta* as calculated by the true motions of the sun and moon (*above*, Vol. XVII) it will be seen that the value of *a* at mean sunrise of Sunday, 22 March, A.D. 599 (K.Y. 3700) was proved to be, in measurement by 10,000ths of a circle, 6567·108945284. The mean solar century, however, began on the previous day, Saturday, 21 March. Deducting one day's value of *a*, viz. 338·631985412, from the above, we find that at mean sunrise of that Saturday the value of *a*, or the mean moon's distance from mean sun, was 6228·476959872. This was its value at the beginning of the 37th century K.Y. Hence the first entry in Table XCII below which gives the values at mean sunrise on the day on which each century began. The remaining figures in that Table were obtained by the addition to this value of the increase of *a* in a century. [See § 316 of the same article. The increase of *a* in a century of 36,525 days is 997·678896964, and in a common century of 36,526 days is 0·416684507.] Centuries 38 and 44 were defective centuries; the rest were common ones. For the beginnings of the odd years of centuries Table LXXXVII was used, the value of *a* there given being added to that for the century.

Thus was determined the value of *a* at mean sunrise of the day on which each mean solar year begins (*see Example 1 below*). From this is found the value of *a* at mean sunrise of the day on which the luni-solar year begins.

326. The first day of the luni-solar year is, according to the general rule, the civil day on which expired the first *tithi* of the bright half (*sukla*) of the *amānta* lunar month Chaitra, i.e. the *tithi* which begins at the moment of the first new moon after the *Mina-samkrānti*, or at the moment of the new moon when that *amānta* lunar month begins within the limits of which the *Mēsha-samkrānti* occurs. Having already established the value of *a* on the day in any year on which mean *Mēsha-samkrānti* occurred, we have to subtract from that value the increase of *a* in whole days between the two dates, the day on which the luni-solar year began being the earlier. The first 30 days' entries in Table LIVA (*above*, Vol. XV) enable this to be done. We select in that Table the *a* in col. 3 the value of which is next lower than the *a* of mean *Mēsha-samkrānti*, and the Table then shews in col. 1 the number of intervening days, and therefrom the European day and month, and, by subtraction, also (col. 2), the week-day. Deducting the selected *a* from the *a* of mean *Mēsha-samkrānti*, we have the *a* of mean sunrise of the day, Chaitra *sukla* 1, on which the mean luni-solar year begins.

Thus,—mean *Mēsha-samkrānti* of the year K.Y. 3700, A.D. 599-600, was shewn in § 325 to have occurred on (0) Saturday, 21 March A.D. 599, at mean sunrise on which day the mean moon's *tithi*-index *a* was 6228·4770. In Table LIVA, amongst the values of *a* in the first 30 days, it is seen that the next lower value is 6095·3757.  $6228·4770 - 6095·3757 = 133·1013$ . Col. 1 shews that the interval of days was 18, and col. 2 shews the week-day 4. Mean *Mēsha-samkrānti* occurred on (0) Saturday.  $0 \text{ (or } 7) - 4 = 3$  Tuesday. It is therefore found that the day Chaitra *sukla* 1, the first civil day of the mean luni-solar year, was (3) Tuesday, 3 March A.D. 599, and that the value of *a* at mean sunrise on that day was 133·1013, shewing the currency of the *tithi* *sukla* 1. This is the entry in Table XC below.

It comes to the same thing if the *a* of Table XCIII below is added to the *a* of mean *Mēsha-samkrānti*, the Table being prepared for that purpose. The *a* of mean *Mēsha-*

<sup>1</sup> All values of *a* below 838·3 prove the *tithi* to have been the first of the *amānta* lunar month, i.e., the first *tithi* of the first (*sukla*) fortnight.

*samkrānti* was 6228·4770. We select such a value of  $a$  in col. 3 of that Table as, added to the former, makes a value between 0 and 333·8, the limits of the *tithi śukla* 1; and note the interval of days, and the week-day resulting by addition of the given week-day (col. 2) to the week-day of mean *Māsha-samkrānti*. Here the selected value of  $a$  is 3904·6243, since  $6228·4770 + 3904·6243 = 133·1013$ . The interval of days is 18 (col. 1). The week-day corresponding to the day *Chaitra śukla* 1 is  $(0 + 3 =) 3$ . The result is the same as obtained by the former process.

All the entries in the general Table XC, cols. 19-23, can be proved in this way.

To find the exact phase of the mean moon, i.e. the mean *tithi*-index  $a$ , on any day of any year, or at any particular moment of any day, it is only necessary to add to the value of  $a$  given in col. 23 of Table XC for the first day of the luni-solar year the amount of increase of  $a$  during the intervening whole days, hours, etc., given in Tables LIVA and B (*above*, Vol. XV).

#### *The pūrṇimānta system of lunar months.*

327. The *amānta* lunar month begins at the moment of new moon, the *pūrṇimānta* month at the moment of full moon a fortnight earlier; so that the fortnight (*śukla*) between new moon and full moon bears the same month-name by both systems, while the fortnight (*krishṇa*) between full moon and new moon bears, in the *pūrṇimānta* system, the name of the lunar month next after that which it bears in the *amānta* system. The *śukla* fortnight of the first lunar month, for instance, belongs to *Chaitra* by both systems. The following *krishṇa* fortnight, however, belongs to *Chaitra* by the *amānta* system, but to *Vaiśākha* by the *pūrṇimānta* system.

This should always be borne in mind when examining dates of inscriptions, especially in earlier years. For references to already published explanations see § 322 *above*, and for a Table of corresponding fortnights and lunar months see *Indian Calendar*, Table II, Part I.

#### *The mean moon's nakshatra.*

328. The note on this subject already given (§ 308) in dealing with calculation by the *First Ārya-Siddhānta mean system* (*above*, Vol. XVI) applies equally to the *Brahma-Siddhānta mean system*. It is unnecessary to repeat it.

Tables LXXX and LXXXI, fixing the sun's mean longitude for every day of the mean solar year according to the *First Ārya-Siddhānta*, may safely be used for general calculation by the *Brahma-Siddhānta*, since the difference between the two authorities in their estimates of the length of the year only amounts to 21 seconds.<sup>1</sup> But in any exceptionally close case the exact value, at mean sunrise of any day in the year, of  $s$ , or the sun's mean longitude, can be found by multiplying the sun's mean motion in one day (Table XLIII, Vol. XIV *above*), by the number of days' interval between the day on which mean *Māsha-samkrānti* occurred and the given day. The sun's mean motion in one day by the *Brahma-Siddhānta* is  $59^m 8^s 172655$ , or in 10,000ths of circle 27·377875426.

The *Rule for work* is as follows. (i) Find, as *above*, value of " $a$ " at mean sunrise of given day. (ii) Note number of whole days intervening between the day of mean *Māsha-samkrānti* (Table XC *below*, col. 13, figure in brackets) and the given day. Turn to Table LXXX and note the increase of sun's mean long., " $s$ ", during that interval. Deduct from this, by Table LXXXI, the increase of long. during the hours and minutes stated in col. 17 of Table XC. The result is the sun's mean long.,  $s$ , at mean sunrise of given day. (iii) Add  $s$  to  $a$ . This =  $n$ , the required index of the mean *nakshatra*, or the mean moon's place in the heavens at that moment. Table LXVIII *above*, or Table VIII, *Indian Calendar*, will shew in which *nakshatra* the mean moon stood at the time.

<sup>1</sup> In measurement by 10,000ths of circle the total difference in 365 days is 0·00665, by which amount the *Brahma-Siddhānta* is the greater.

*The 19-year intercalation cycle.*

329. [See *Indian Calendar*, § 50, p. 29, and notes in previous articles above on the working of the cycle by different systems.] The sequence in the present case works perfectly regularly except in four instances. In every case except these, after four successive intercalations of the same lunar month at intervals of 19 years each, the intercalated month gives way to the month next preceding it. The exceptions are—a run of five mean intercalary Bhādrapadas between A.D. 746 and 822, five Āśvins between 952 and 1009, five Kārttikas between 1120 and 1196, and five Paushas between 1231 and 1307.

*Working Tables.*

330. For general guidance the following Tables, as given for work by the *Ārya-Siddhānta* (above, Vol. XVI), should be used, or the similar Tables published in the *Indian Calendar*.

Table LXII, or *Ind. Cal.*, Table II, Parts I and II, for names of months and *nakshatras*.

Table LXIII, or *Ind. Cal.*, Table III, Part I, for collective duration of mean lunar months.

Table LXVIII, or *Ind. Cal.*, Table VIII, for indices of *tithis*, *karaṇas*, *nakshatras* and *yōgas*.

Table LXIX, or *Ind. Cal.*, Table IX, for the serial number of days of the year and their names and numbers in European reckoning.

Table LXX, or *Ind. Cal.*, Table X, for conversion of the indices of *tithis*, *nakshatras* and *yōgas* into time.

Table LXXI, the European Calendar for 23 centuries. [Table XIII, *Indian Calendar*, may also be used, but the former is easier.]

Table XCI below gives the collective duration of mean solar months, measured from the moment of mean Mēsha-samkrānti, the astronomical beginning of the mean solar year; also the increase of *a*, the mean *tithi*-index, during the interval.

Table XCII shews the value of *a* at the beginning of each mean solar century of the Kaliyuga, that is to say, its value at mean sunrise of the day on which each such solar century began.

For odd years of such centuries Table LXXXVII (above, Vol. XVII) is to be used in conjunction with Table XCII, addition of the two given values of *a* yielding the value of *a* at mean sunrise of the day on which each mean year of the Kaliyuga solar century began.

For increase of *a* in subsequent days, hours, etc., in any K.Y. year, or any moment of any day Tables LIYA and B (above, Vol. XV) are to be used.

The use of Table XCIII is explained in § 326 above.

Table XCIV-A to F enables the units and decimals of units of results obtained from our system of reckoning in measurement by 10,000ths of a circle, to be converted readily into time, if required. The same can be converted into space-measurement in degrees, etc., by Table XLVB (above, Vol. XIV).

**EXAMPLES.**

[N.B.—Work may always be done in whole numbers, resorting to decimals only in close cases.]

*Example 1.* To find the mean *tithi*-index, or phase of moon, at mean sunrise of the day on which mean Mēsha-samkrānti occurred in any year.

This is a necessary operation for finding the *tithi*-index *a* at the moment of mean Mēsha-samkrānti, which is obtained by addition of the *a* of subsequent hours, minutes, etc., to the *a*

of mean sunrise. [The intercalation of lunar months is decided by the value of  $a$  at the moment of mean Mēsha-samkrānti.] Two cases are considered; A and B.

A. Take the year Kaliyuga 3851 expired. This was the Śaka year 672 expired. It began (Table XC, cols. 13-17) astronomically at 5<sup>h</sup> 49<sup>m</sup> 39<sup>s</sup> after mean sunrise on Sunday, 22 March A.D. 750. We want to know the moon's phase, as shewn by the *tithi*-index  $a$ , at mean sunrise of that day. ["w.-d." = week-day.]

	w.-d.	a.
(Table XCII.) At beginning of K.Y. Century 38, mean sunrise	(0)	5100.3761
(Table LXXXVII.) At beginning of K.Y. year 51, do.	(1)	8036.6248

At mean sunrise on the Sunday in question . . . (1) 3137.0004

B. The year K.Y. 3849, Śaka 670 both expired. This began (Table XC) at 17<sup>h</sup> 25<sup>m</sup> 21<sup>s</sup> after mean sunrise on Thursday, 21 March A.D. 748. The first result shews the  $a$  for mean sunrise on Friday, 22 March, and the  $a$  for one day has to be deducted. This is due to the fact that Table LXXXVII has to serve for all K.Y. centuries, common or defective. The correction required is never more than that for one day.

(Table XCII.) At beginning of K.Y. Century 38, mean sunrise	(0)	5100.3761
(Table LXXXVII.) At beginning of K.Y. year 49, do.	(6)	835.2749

At mean sunrise on Friday, 22 Mar. . . . . (6) 5935.6510  
Deduct one day's value of  $a$  . . . . . — (1) —338.6320

At mean sunrise on Thursday, 21 Mar. . . . . (5) 5597.0190

*Example 2. To find the civil day corresponding to Chaitra sukla 1, or the first civil day of the luni-solar year; and the value of  $a$  (place of mean moon) at mean sunrise thereon.*

The civil day corresponding to mean Chaitra *sukla* 1 is that on which the mean *tithi* "*sukla* 1" expired. The *tithi*-index ( $a =$ ) 333.3 marks the last instant of the first *sukla tithi*, so that we have to find a day on which at mean sunrise the *tithi*-index  $a$  was between 0 and 333.3. The *amānta* lunar month called "Chaitra" begins with the first new moon after the Mina-samkrānti, and the civil day called "Chaitra *sukla* 1" is necessarily earlier than the day on which mean Mēsha-samkrānti occurred. We have to find the number of days' interval between these two days. There are two ways of ascertaining these points, one by using Table XCIII and adding its figures, one by using Table LIVA and subtracting its figures.

(i) Take the year in Example 1, A, above. The value of  $a$  at mean sunrise of Sunday, 22 March A.D. 750, was found to be 3137.0004. We turn to Table XCIII and select in col. 3 such a value of  $a$  as, added to 3137.0004, will result in a total value of  $a$  between 0 and 333.3. This is found to be 6952.3121, the sum of the two (always disregarding quantities over 10,000) being 89.3125. The interval of whole days from mean Mēsha-samkrānti day was 9 (col. 1). Adding the number of the week-day (col. 2), viz. 5, to the week-day of mean Mēsha-samkrānti, viz. 1 Sunday, we have the week-day 6 Friday. Mean Mēsha-samkrānti occurred on Sunday, 22 March; and, therefore, it has been determined that the day Chaitra *sukla* 1, the first day of the luni-solar year, was Friday, 13 March A.D. 750, on which day,  $a$  being 89.3125, Chaitra *sukla* 1 was the current *tithi* at mean sunrise.

Similarly in Example 1, B. At mean sunrise of (5) Thursday, 21 March A.D. 748,  $a$  was 5597.0190. Add (Table XCIII, col. 3) 4691.8882. Result 178.9072. The interval of days was

(col. 1). 16. The week-day number was 5. The week-day of 21 March was 5 (Thursday). Hence the week-day 16 days earlier was  $5+5=3$  Tuesday. So the beginning of the mean luni-solar year was on Tuesday, 5 March A.D. 748, on which date at mean sunrise the mean *tithi* " *sukla 1* " was current, the value of *a* at that moment being 178·9072.

The entries in Table XC against these years correspond to these results.

(ii) The same results are obtained by using Table LIVA (*above*, Vol. XV) and deducting the figures for the interval of whole days between the two occurrences. We note that value of *a* in the first 30 days of that Table which is next lower than the value of *a* already found for the day of mean *Mēsha-samkrānti*, and deduct the former from the latter. The number of intervening days (col. 1) and the number of week-days (col. 2) stand against the selected entry. This week-day number is deducted, of course, from the week-day of mean *Mēsha-samkrānti*. Thus—

A. For K.Y. 3851, A.D. 750.	<i>w.-d.</i>	<i>a.</i>
( <i>Example 1, A.</i> ) For mean sunrise on Sunday, 22 March A.D. 750.	(1)	3137·0004
( <i>Table LIVA.</i> ) Next lower value of <i>a</i> , and week-day	—(2)	—3047·6879
At mean sunrise of the day Chaitra <i>sukla 1</i>	(6)	89·3125

The interval of days (col. 1) was nine.  $6=$ Friday. Hence the day corresponding to Chaitra *sukla 1* was Friday, 13 March, and at mean sunrise the mean *tithi* Chaitra *sukla 1* was current, the value of *a* being 89·3125.

B. For K.Y. 3849, A.D. 748.

( <i>Example 1, B.</i> ) At mean sunrise on Thursday, 21 March A.D. 748.	(5)	5597·0190
( <i>Table LIVA.</i> ) Next lower value of <i>a</i> , and week-day	—(2)	—5418·1118
At mean sunrise of the day Chaitra <i>sukla 1</i>	(3)	178·9072

The interval of days was 16.  $3=$ Tuesday. Hence the day corresponding to Chaitra *sukla 1* was Tuesday, 5 March A.D. 748, and at mean sunrise the value of *a* was 178·9072.

These results are the same as those found by the former process. The examples enable any worker to prove the correctness of all my entries in cols. 19-23 of the general Table XC below.

*Example 3. To find if a lunar month was or was not intercalated in the given year.*

It will be enough, for this problem, to refer to Example 3 (*above*, Vol. XVI) of my article on the *Arya-Siddhānta—mean system*. The work here is precisely similar; but for the values of *a* for hours and minutes Table LIVB (Vol. XV *above*) should be used, and Table XCI for the advance of *a* during the mean solar months, etc.

*Example 4. To find the mean tithi-index a, shewing phase of moon, at mean sunrise of any day in the year; or at any moment of any day.*

Table XC (cols. 19-23) gives the civil day corresponding to mean Chaitra *sukla 1* (the initial day of the mean luni-solar year), its serial number (in brackets) from January 1st of the equivalent A.D. year, and the mean *tithi*-index *a* at mean sunrise. Calculate by Table III, *Indian Calendar*, or by Table LXIIIA (*above*, Vol. XVI) the interval of whole days from that day to the given day, and, if necessary, the excess of hours, minutes, etc., to the given moment on that day. Add the increment of *a* for the interval of whole days from Table LIVA and for fractions of days from Table LIVB to the *a*, as above, of the initial day; as also the number of days' interval and the corresponding week-day.

*E.g.* Required the *tithi*-index at mean sunrise of the day called "*Āshāḍha sukla 4*" in Saka 547 expired, or A.D. 625-26, and the corresponding A.D. day and week-day.

In this year there was no intercalated month. The interval from the day "*Chaitra sukla 1*" to the day "*Āshāḍha sukla 4*" is approximately (Table LXIII-A above, p. 335) 93 days. We try this—

	d.	w.-d.	a.
Table XC. <i>Chaitra sukla 1</i> , mean sunrise . . .	(74)	(6)	184·6506
Table LIVA for 93 days . . . . .	+ (93)	(2)	1492·7746

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(167) (1) 1677·4252

This value of "*a*" (Table LXVIII) shews

that the 6th *sukla tithi* was current at mean

sunrise. ∴ Deduct for 2 days . . . . .

—(2) —(2) —677·2640

---

At mean sunrise on *Āshāḍha sukla 4* . . . . . (165) (6) 1000·1612

Table LXVIII or VIII *Indian Calendar*, shews the currency of the 4th *sukla tithi*, at that mean sunrise, since its first point is when  $a=1,000$ . Day 165 was (Table IX, *Indian Calendar*, or LXIX, above) 14th June A.D. 625. 6=Friday. We learn, however, that the 4th mean *tithi* had begun only about  $\frac{1}{4}$  of a minute before the moment of mean sunrise; so that if the basis of calculation had been the moment of true sunrise (a little earlier than mean sunrise) the corresponding day might have been Thursday, 13 June.

*Example 5.* To find the *nakshatra*, or place in the heavens of the mean moon, at mean sunrise of any day or of any later moment in the day.

Take the case in the last example. It is required to find the value of "*n*". the *nakshatra*-index, at mean sunrise of the day called, in the mean system, "*Āshāḍha sukla 4*" in the given year, A.D. 625.

The mean *tithi*-index, "*a*", at that mean sunrise was found to be 1000·1612. Since  $s+a=n$  (§ 327 above), we have to ascertain the value of "*s*", the sun's mean longitude at that moment.

The day, 14 June, was the 165th day after Jan. 1 in that year. Mean *Mēsha-samkrānti* had taken place on (Table XC, cols. 13-17) the 79th day at 22<sup>h</sup> 30<sup>m</sup> 54<sup>s</sup> after mean sunrise. The day 14 June was (165-79) 86 days later. We proceed as follows:—

	s.
Table LXXX, p. 444. Interval of 86 days . . . . .	2354·4957
Less (Table LXXXI) for 22 <sup>h</sup> . . . . .	25·0964
30 <sup>m</sup> . . . . .	0·5704
54 <sup>s</sup> . . . . .	0·0171
	<hr/> 25·6839
	—25·6839

At mean sunrise on the day *Āshāḍha sukla 4* sun's mean long., "*s*" = 2328·8118

Add "*a*" as already found for that moment . . . . . 1000·1612

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At mean sunrise on that day "*n*" = 3328·9730

This last is the required *nakshatra*-index. Reference to Table VIII, *Indian Calendar*, or Table LXVIII (above Vol. XVI) shews that the moon was then in the *nakshatra* *Aślēṣā* by the

equal-space system of division of the ecliptic, which ended when " $n$ " = 3333·3; but that by the system of Garga or the *Brahma-Siddhanta* (our present authority) she was in Maghā, of which the ending points are respectively 3518·5 and 3477·1. Converted into degrees (Table VIII-B, *Indian Calendar*, or Table XLV-B, above) the moon at that mean sunrise stood at about  $119^{\circ}51'$ .

For the value of " $n$ " at any later hour of the given day the index-value for the time since mean sunrise must be added (Table LXXXI) to the " $n$ " of mean sunrise. At about 3 hours 50 min. after mean sunrise, for instance, the mean moon entered Maghā by the equal-space system; for the beginning point of that *nakshatra* is 3333·3. The increase of " $n$ " in 3 hours 50 min. is 4·3728, and  $3328·9730 + 4·3728 = 3333·3458$ .

*Example 6.* To find the *yōga*, " $y$ ", at the same moment as in Example 5.

The formula for finding the *yōga*-index is either  $s+n="y"$ , the *yōga*-index; or, in cases where it is not necessary to calculate  $n$  (the *nakshatra*),  $2"s"+a="y"$ . Here, at mean sunrise on 14 June A.D. 625, we have found " $s$ " = 2328·8118 and " $n$ " = 3328·9730. The *yōga*-index, " $y$ ", therefore, = 5657·7848; and reference to Table VIII, *Indian Calendar*, cols. 12-13, or Table LXVIII (above, Vol. XVI, cols. 6, 8, 9, 10), shews that the mean moon was at that moment in the *yōga* Siddhi. Again  $2s=4657·6236$ , and this + " $a$ ," which was found to be 1000·1612 = 5657·7848, the same as before.

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## TABLE XC.

## REMARKS.

K.Y. 3736 expired, A.D. 635-36. A very close case in the matter of intercalation of lunar month. Mean new moon occurred about 2<sup>m</sup> after the moment of the Karka-*saṃkrānti* (mean sun at long. 90°), and, therefore, at that moment the mean moon was waning, while she was waxing at the next, Simha-*saṃkrānti* (mean sun at 120°). Accordingly the intercalated month was Śrāvaṇa.

K.Y. 3923 expired, A.D. 822-23. According to the 19-year sequence of intercalations the same month is generally intercalated four times running, i.e. at intervals of 19 years each. Here, however, is an instance of a fifth intercalation of the same month. [See § 329 of text above.]

K.Y. 4110 expired, A.D. 1009-10. A similar case. Āśvina intercalated for the fifth time.

K.Y. 4297 expired, A.D. 1196-97. Another. Kārttika intercalated for the fifth time.

K.Y. 4408 expired, A.D. 1307-08. Another. Pausa intercalated for the fifth time. This was a very close case. The moment of mean new moon was about 1 minute after the mean sun reached the Dhanus-*saṃkrānti* (mean sun at long. 240°), but she was actually waning at the moment of the *saṃkrānti* and was waxing at the next, Makara, *saṃkrānti*. Consequently the lunar month Pausa was intercalated.



## TABLE

## MEAN SYSTEM TABLE,

Numbers of columns conform

(Cols. 1 to 4.)—The years herein stated are the *current* years corresponding(Cols. 6 and 7.)—*Samvatsara*-names of mean solar years in italics shew cases

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3701	522	657	6		599-600	50 Anala . . .		...
3702	523	658	7		*600-01	51 Piṅgala . . .		2 Vaiśākha .
3703	524	659	8		601-02	52 Kālayukta . . .		...
3704	525	660	9		602-03	53 Siddhārthin . . .		10 Pausa .
3705	526	661	10		603-04	54 Raudra . . .		...
3706	527	662	11		*604-05	55 Durmati . . .		...
3707	528	663	12		605-06	56 Dundubhi . . .		7 Āśvina .
3708	529	664	13		606-07	57 Rudhirōdgārin . . .		...
3709	530	665	14		607-08	58 Raktāksha . . .		...
3710	531	666	15		*608-09	59 Krōdhana . . .		8 Jyēṣṭha .
3711	532	667	16		609-10	60 Kshaya . . .		...
3712	533	668	17		610-11	1 Prabhava . . .		12 Phālguna .
3713	534	669	18		611-12	2 Vibhava . . .		...
3714	535	670	19		*612-13	3 Śukla . . .		...
3715	536	671	20		613-14	4 Pramōda . . .		3 Kārttika .
3716	537	672	21		614-15	5 Prajāpati . . .		...
3717	538	673	22		615-16	6 Aṅgiras . . .		...
3718	539	674	23		*616-17	7 Śrīmukha . . .		5 Śrāvapa .
3719	540	675	24		617-18	8 Bhāva . . .		...
3720	541	676	25		618-19	9 Yuvan . . .		...

XO.

BRAHMA-SIDDHANTA.

to Table I, "Indian Calendar."

to the A.D. years in col. 5; as in Table I, "Indian Calendar."

*where differences exist from Sūrya-Siddhanta nomenclature in true solar years.*

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṅkrānti.	Day and month, A.D.	Week-day.	$\alpha$ (here = $\delta$ , the index of the <i>tithi</i> ).	
18	14	17	19	20	23	
		H. M. S.				
21 Mar. (80) . . .	0 Sat. . .	5 15 0	3 Mar. (62) . . .	3 Tues. . .	133-1013	3701
20 Mar. (80) . . .	1 Sun. . .	11 27 9	20 Feb. (51) . . .	0 Sat. . .	8-8241	3702
20 Mar. (79) . . .	2 Mon. . .	17 39 18	10 Mar. (69) . . .	6 Fri. . .	43-5065	3703
20 Mar. (79) . . .	3 Tues. . .	23 51 27	28 Feb. (59) . . .	4 Wed. . .	257-8614	3704
21 Mar. (80) . . .	5 Thur. . .	6 3 36	19 Mar. (78) . . .	3 Tues. . .	292-5437	3705
20 Mar. (80) . . .	6 Fri. . .	12 15 45	7 Mar. (67) . . .	0 Sat. . .	168-2666	3706
20 Mar. (79) . . .	0 Sat. . .	18 27 54	24 Feb. (55) . . .	4 Wed. . .	43-3394	3707
21 Mar. (80) . . .	2 Mon. . .	0 40 3	15 Mar. (74) . . .	3 Tues. . .	78-6718	3708
21 Mar. (80) . . .	3 Tues. . .	6 52 12	5 Mar. (64) . . .	1 Sun. . .	293-0266	3709
20 Mar. (80) . . .	4 Wed. . .	13 4 21	22 Feb. (53) . . .	5 Thur. . .	168-7494	3710
20 Mar. (79) . . .	5 Thur. . .	19 16 30	12 Mar. (71) . . .	4 Wed. . .	203-4218	3711
21 Mar. (80) . . .	0 Sat. . .	1 28 39	1 Mar. (60) . . .	1 Sun. . .	79-1547	3712
21 Mar. (80) . . .	1 Sun. . .	7 40 48	20 Mar. (79) . . .	0 Sat. . .	113-8371	3713
20 Mar. (80) . . .	2 Mon. . .	13 52 57	9 Mar. (69) . . .	5 Thur. . .	328-1918	3714
20 Mar. (79) . . .	3 Tues. . .	20 5 6	26 Feb. (57) . . .	2 Mon. . .	203-9147	3715
21 Mar. (80) . . .	5 Thur. . .	2 17 15	17 Mar. (76) . . .	1 Sun. . .	238-5972	3716
21 Mar. (80) . . .	6 Fri. . .	8 29 24	6 Mar. (65) . . .	5 Thur. . .	114-3199	3717
20 Mar. (80) . . .	0 Sat. . .	14 41 33	24 Feb. (55) . . .	3 Tues. . .	328-6747	3718
20 Mar. (79) . . .	1 Sun. . .	20 53 42	13 Mar. (72) . . .	1 Sun. . .	24-7252	3719
21 Mar. (80) . . .	3 Tues. . .	3 5 51	3 Mar. (62) . . .	6 Fri. . .	239-0801	3720

TABLE

CONCURRENT YEAR.							Mean intercalated ( <i>adhika</i> ) lunar month.	
Kali.	Saka.	Chaitradi Vikrama.	Mēhādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.		Northern system.
1	2	3	3a	4	5	6	7	8a
3721	542	677	26		619-20	10 Dhātṛi . . .		1 Chaitra .
3722	543	678	27		*620-21	11 Isvara . . .		...
3723	544	679	28		621-22	12 Bahudhānya . . .		10 Pausa .
3724	545	680	29		622-23	13 Pramāthin . . .		...
3725	546	681	30		623-24	14 Vikrama . . .		...
3726	547	682	31		*624-25	15 Vṛisha . . .		6 Bhādrapada .
3727	548	683	32		625-26	16 Chitrabhānu . . .		...
3728	549	684	33		626-27	17 Subhānu . . .		...
3729	550	685	34		627-28	18 Tārana . . .		3 Jyēṣṭha .
3730	551	686	35		*628-29	19 Pārthiva . . .		...
3731	552	687	36		629-30	20 Vyaya . . .		11 Māgha .
3732	553	688	37		630-31	21 Sarvajit . . .		...
3733	554	689	38		631-32	22 Sarvadhārin . . .		...
3734	555	690	39		*632-33	23 Virōdhin . . .		8 Kārttika .
3735	556	691	40		633-34	24 Vikṛita . . .		...
3736	557	692	41		634-35	25 Khara . . .		...
3737	558	693	42		635-36	26 Nandana . . .		5 Śrāvana § .
3738	559	694	43		*636-37	27 Vijaya . . .		...
3739	560	695	44		637-38	28 Jaya . . .		...
3740	561	696	45		638-39	29 Manmatha . . .		1 Chaitra .
3741	562	697	46		639-40	30 Darmukha . . .		...
3742	563	698	47		*640-41	31 Hēmalamba . . .		10 Pausa .
3743	564	699	48		641-42	32 Vilamba . . .		...
3744	565	700	49		642-43	33 Vikārin . . .		...
3745	566	701	50		643-44	34 Śārvarin . . .		6 Bhādrapada .

§ See "Remarks," p. 215 above.

XC—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	<i>a</i> (here = <i>t</i> , the index of the <i>tiki</i> ).	
13	14	17	19	20	23	1
		H. M. S.				
21 Mar. (80) . .	4 Wed. . .	9 18 0	20 Feb. (51) . .	3 Tues. . .	114·8028	3721
20 Mar. (80) . .	5 Thur. . .	15 30 9	10 Mar. (70) . .	2 Mon. . .	149·4852	3722
20 Mar. (79) . .	6 Fri. . .	21 42 18	27 Feb. (58) . .	6 Fri. . .	25·2081	3723
21 Mar. (80) . .	1 Sun. . .	3 54 27	18 Mar. (77) . .	5 Thur. . .	59·8904	3724
21 Mar. (80) . .	2 Mon. . .	10 6 36	8 Mar. (67) . .	3 Tues. . .	274·2453	3725
20 Mar. (80) . .	3 Tues. . .	16 18 45	25 Feb. (56) . .	0 Sat. . .	149·9682	3726
20 Mar. (79) . .	4 Wed. . .	22 30 54	15 Mar. (74) . .	6 Fri. . .	184·6506	3727
21 Mar. (80) . .	6 Fri. . .	4 43 3	4 Mar. (63) . .	3 Tues. . .	60·3734	3728
21 Mar. (80) . .	0 Sat. . .	10 55 12	22 Feb. (53) . .	1 Sun. . .	274·7282	3729
20 Mar. (80) . .	1 Sun. . .	17 7 21	12 Mar. (72) . .	0 Sat. . .	309·4106	3730
20 Mar. (79) . .	2 Mon. . .	23 19 30	1 Mar. (60) . .	4 Wed. . .	185·1834	3731
21 Mar. (80) . .	4 Wed. . .	5 31 39	20 Mar. (79) . .	3 Tues. . .	219·8158	3732
21 Mar. (80) . .	5 Thur. . .	11 43 48	9 Mar. (68) . .	0 Sat. . .	95·5387	3733
20 Mar. (80) . .	6 Fri. . .	17 55 57	27 Feb. (58) . .	5 Thur. . .	309·8935	3734
21 Mar. (80) . .	1 Sun. . .	0 8 6	16 Mar. (75) . .	3 Tues. . .	5·9439	3735
21 Mar. (80) . .	2 Mon. . .	6 20 15	6 Mar. (65) . .	1 Sun. . .	230·2987	3736
21 Mar. (80) . .	3 Tues. . .	12 32 24	23 Feb. (54) . .	5 Thur. . .	96·0216	3737
20 Mar. (80) . .	4 Wed. . .	18 44 33	13 Mar. (73) . .	4 Wed. . .	130·7040	3738
21 Mar. (80) . .	6 Fri. . .	0 56 42	2 Mar. (61) . .	1 Sun. . .	6·4268	3739
21 Mar. (80) . .	0 Sat. . .	7 8 51	20 Feb. (51) . .	6 Fri. . .	220·7816	3740
21 Mar. (80) . .	1 Sun. . .	13 21 0	11 Mar. (70) . .	5 Thur. . .	255·4840	3741
20 Mar. (80) . .	2 Mon. . .	19 33 9	28 Feb. (59) . .	2 Mon. . .	131·1868	3742
21 Mar. (80) . .	4 Wed. . .	1 45 18	18 Mar. (77) . .	1 Sun. . .	165·8692	3743
21 Mar. (80) . .	5 Thur. . .	7 57 27	7 Mar. (66) . .	5 Thur. . .	41·5921	3744
21 Mar. (80) . .	6 Fri. . .	14 9 36	25 Feb. (56) . .	3 Tues. . .	255·9470	3745

TABLE

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3746	567	702	51		*644-45	35 Plava . . .		...
3747	568	703	52		645-46	36 Śubhakṛit . . .		...
3748	569	704	53		646-47	37 Śōbhana . . .		3 Jyēshṭha .
3749	570	705	54		647-48	38 Krōdhin . . .		...
3750	571	706	55		*648-49	39 Viśvāvasu † . . .		11 Māgha .
3751	572	707	56		649-50	41 Plavaṅga . . .		...
3752	573	708	57		650-51	42 Kīlaka . . .		...
3753	574	709	58		651-52	43 Saumya . . .		8 Kārttika
3754	575	710	59		*652-53	44 Sādhārāna . . .		...
3755	576	711	60		653-54	45 Virōdhakṛit . . .		...
3756	577	712	61		654-55	46 Paridhāvin . . .		4 Āshāḍha .
3757	578	713	62		655-56	47 Pramādin . . .		...
3758	579	714	63		*656-57	48 Ānanda . . .		...
3759	580	715	64		657-58	49 Rākshasa . . .		1 Chaitra .
3760	581	716	65		658-59	50 Anala . . .		...
3761	582	717	66		659-60	51 Piṅgala . . .		9 Mārgaśīra .
3762	583	718	67		*660-61	52 Kālayukta . . .		...
3763	584	719	68		661-62	53 Siddhārthin . . .		...
3764	585	720	69		662-63	54 Raudra . . .		6 Bhādrapada .
3765	586	721	70		663-64	55 Durmati . . .		...
3766	587	722	71		*664-65	56 Dundubhi . . .		...
3767	588	723	72		665-66	57 Rudhirōdgārin . . .		2 Vaiśākha .
3768	589	724	73		666-67	58 Raktaksha . . .		...
3769	590	725	74		667-68	59 Krōdhana . . .		11 Māgha .
3770	591	726	75		*668-69	60 Kshaya . . .		...

† 40 Parābhava was suppressed, both in mean and true reckoning.

XC—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-sankrānti.	Day and month, A.D.	Week-day.	$a$ (here = $t$ , the index of the $tikk$ ).	
18	14	17	19	20	23	1
		H. M. S.				
20 Mar. (80) . . .	0 Sat. . .	20 21 45	15 Mar. (75) . . .	2 Mon. . .	290-8293	3746
21 Mar. (80) . . .	2 Mon. . .	2 38 54	4 Mar. (68) . . .	6 Fri. . .	166-8522	3747
21 Mar. (80) . . .	3 Tues. . .	8 46 3	21 Feb. (52) . . .	3 Tues. . .	42-0750	3748
21 Mar. (80) . . .	4 Wed. . .	14 58 12	12 Mar. (71) . . .	2 Mon. . .	76-7573	3749
20 Mar. (80) . . .	5 Thur. . .	21 10 21	1 Mar. (61) . . .	0 Sat. . .	291-1122	3750
21 Mar. (80) . . .	0 Sat. . .	3 22 30	20 Mar. (79) . . .	6 Fri. . .	325-7946	3751
21 Mar. (80) . . .	1 Sun. . .	9 34 39	9 Mar. (68) . . .	3 Tues. . .	201-5175	3752
21 Mar. (80) . . .	2 Mon. . .	15 46 48	26 Feb. (57) . . .	0 Sat. . .	77-2402	3753
20 Mar. (80) . . .	3 Tues. . .	21 58 57	16 Mar. (76) . . .	0 Sat. . .	111-9227	3754
21 Mar. (80) . . .	5 Thur. . .	4 11 6	6 Mar. (65) . . .	4 Wed. . .	326-2775	3755
21 Mar. (80) . . .	6 Fri. . .	10 23 15	23 Feb. (54) . . .	1 Sun. . .	202-0003	3756
21 Mar. (80) . . .	0 Sat. . .	16 35 24	14 Mar. (73) . . .	0 Sat. . .	236-6827	3757
20 Mar. (80) . . .	1 Sun. . .	22 47 33	2 Mar. (62) . . .	4 Wed. . .	112-4056	3758
21 Mar. (80) . . .	3 Tues. . .	4 59 42	20 Feb. (51) . . .	2 Mon. . .	326-7604	3759
21 Mar. (80) . . .	4 Wed. . .	11 11 51	10 Mar. (69) . . .	0 Sat. . .	22-8108	3760
21 Mar. (80) . . .	5 Thur. . .	17 24 0	28 Feb. (59) . . .	5 Thur. . .	237-1656	3761
20 Mar. (80) . . .	6 Fri. . .	23 36 9	18 Mar. (78) . . .	4 Wed. . .	271-8490	3762
21 Mar. (80) . . .	1 Sun. . .	5 48 18	7 Mar. (66) . . .	1 Sun. . .	147-5708	3763
21 Mar. (80) . . .	2 Mon. . .	12 0 27	24 Feb. (55) . . .	5 Thur. . .	23-2937	3764
21 Mar. (80) . . .	3 Tues. . .	18 12 36	15 Mar. (74) . . .	4 Wed. . .	57-9761	3765
21 Mar. (81) . . .	5 Thur. . .	0 24 45	4 Mar. (64) . . .	2 Mon. . .	272-3310	3766
21 Mar. (80) . . .	6 Fri. . .	6 36 54	21 Feb. (52) . . .	6 Fri. . .	148-0537	3767
21 Mar. (80) . . .	0 Sat. . .	12 49 3	12 Mar. (71) . . .	5 Thur. . .	182-7361	3768
21 Mar. (80) . . .	1 Sun. . .	19 1 12	1 Mar. (60) . . .	2 Mon. . .	58-4590	3769
21 Mar. (81) . . .	3 Tues. . .	1 13 21	19 Mar. (79) . . .	1 Sun. . .	93-1413	3770

TABLE

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Śaka.	Chaitradī Vikrama.	Mehādī solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3771	592	727	76		669-70	1 Prabhava . . .		...
3772	593	728	77		670-71	2 Vibhava . . .		7 Āśvina .
3773	594	729	78		671-72	3 Sukla . . .		...
3774	595	730	79		*672-73	4 Pramōda . . .		...
3775	596	731	80		673-74	5 Prajāpati . . .		4 Āshāḍha .
3776	597	732	81		674-75	6 Āngirasa . . .		...
3777	598	733	82		675-76	7 Śrinukha . . .		...
3778	599	734	83		*676-77	8 Bhāva . . .		1 Chaitra .
3779	600	735	84		677-78	9 Yuvan . . .		...
3780	601	736	85		678-79	10 Dhātṛi . . .		9 Mārgaśira .
3781	602	737	86		679-80	11 Īśvara . . .		...
3782	603	738	87		*680-81	12 Bahudhānya . . .		...
3783	604	739	88		681-82	13 Pramāsthina . . .		6 Bhādrapada .
3784	605	740	89		682-83	14 Vikrama . . .		...
3785	606	741	90		683-84	15 Vṛisha . . .		...
3786	607	742	91		*684-85	16 Chitrabhānu . . .		2 Vāśākha .
3787	608	743	92		685-86	17 Subhānu . . .		...
3788	609	744	93		686-87	18 Tāraka . . .		11 Māgha .
3789	610	745	94		687-88	19 Pārthiva . . .		...
3790	611	746	95		*688-89	20 Vyaya . . .		...
3791	612	747	96		689-90	21 Sarvajit . . .		7 Āśvina .
3792	613	748	97		690-91	22 Sarvadhārin . . .		...
3793	614	749	98		691-92	23 Virōdhina . . .		...
3794	615	750	99		*692-93	24 Vihṛita . . .		4 Āshāḍha .
3795	616	751	100		693-94	25 Khara . . .		...

KO—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Māha-samkrānti.	Day and month, A.D.	Week-day.	s (here + t, the index of the <i>śukla</i> ).	
13	14	17	19	20	23	1
		H. M. S.				
21 Mar. (80) . . .	4 Wed. . .	7 25 30	9 Mar. (68) . . .	6 Fri. . .	307-4962	3771
21 Mar. (80) . . .	5 Thurs. . .	13 37 39	26 Feb. (57) . . .	3 Tues. . .	183-2190	3772
21 Mar. (80) . . .	6 Fri. . .	19 49 48	17 Mar. (76) . . .	2 Mon. . .	217-9015	3773
21 Mar. (81) . . .	1 Sun. . .	2 1 57	5 Mar. (65) . . .	6 Fri. . .	93-6242	3774
21 Mar. (80) . . .	2 Mon. . .	8 14 6	23 Feb. (54) . . .	4 Wed. . .	307-9791	3775
21 Mar. (80) . . .	3 Tues. . .	14 26 15	13 Mar. (72) . . .	2 Mon. . .	4-0295	3776
21 Mar. (80) . . .	4 Wed. . .	20 38 24	3 Mar. (62) . . .	0 Sat. . .	218-3843	3777
21 Mar. (81) . . .	6 Fri. . .	2 50 33	20 Feb. (51) . . .	4 Wed. . .	94-1071	3778
21 Mar. (80) . . .	0 Sat. . .	9 2 42	10 Mar. (69) . . .	3 Tues. . .	128-7896	3779
21 Mar. (80) . . .	1 Sun. . .	15 14 51	27 Feb. (58) . . .	0 Sat. . .	4-5124	3780
21 Mar. (80) . . .	2 Mon. . .	21 27 0	18 Mar. (77) . . .	6 Fri. . .	39-1947	3781
21 Mar. (81) . . .	4 Wed. . .	3 39 9	7 Mar. (67) . . .	4 Wed. . .	258-5496	3782
21 Mar. (80) . . .	5 Thurs. . .	9 51 18	24 Feb. (55) . . .	1 Sun. . .	129-2725	3783
21 Mar. (80) . . .	6 Fri. . .	16 3 27	15 Mar. (74) . . .	0 Sat. . .	163-9549	3784
21 Mar. (80) . . .	0 Sat. . .	22 15 36	4 Mar. (63) . . .	4 Wed. . .	39-6776	3785
21 Mar. (81) . . .	2 Mon. . .	4 27 45	22 Feb. (53) . . .	2 Mon. . .	254-0825	3786
21 Mar. (80) . . .	3 Tues. . .	10 39 54	12 Mar. (71) . . .	1 Sun. . .	238-7149	3787
21 Mar. (80) . . .	4 Wed. . .	16 52 3	1 Mar. (60) . . .	5 Thurs. . .	164-4377	3788
21 Mar. (80) . . .	5 Thurs. . .	23 4 12	20 Mar. (79) . . .	4 Wed. . .	199-1200	3789
21 Mar. (81) . . .	0 Sat. . .	5 16 21	8 Mar. (68) . . .	1 Sun. . .	74-8430	3790
21 Mar. (80) . . .	1 Sun. . .	11 28 30	26 Feb. (57) . . .	6 Fri. . .	289-1978	3791
21 Mar. (80) . . .	2 Mon. . .	17 40 39	17 Mar. (76) . . .	5 Thurs. . .	323-8802	3792
21 Mar. (80) . . .	3 Tues. . .	23 53 48	6 Mar. (65) . . .	2 Mon. . .	199-6080	3793
21 Mar. (81) . . .	5 Thurs. . .	6 4 57	23 Feb. (54) . . .	6 Fri. . .	75-3259	3794
21 Mar. (80) . . .	6 Fri. . .	13 17 6	13 Mar. (72) . . .	5 Thurs. . .	110-0082	3795



TABLE

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Māhādī solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3796	617	752	101		694-95	26 Nandana . . .		12 Phālguna .
3797	618	753	102		695-96	27 Vijaya . . .		...
3798	619	754	103		*696-97	28 Jaya . . .		...
3799	620	755	104		697-98	29 Manmatha . . .		9 Mārgaśīra .
3800	621	756	105		698-99	30 Durmukha . . .		...
3801	622	757	106		699-700	31 Hāmālamba . . .		...
3802	623	758	107		*700-01	32 Vilamba . . .		5 Śrāvaṇa .
3803	624	759	108		701-02	33 Vikārin . . .		...
3804	625	760	109		702-03	34 Śārvarin . . .		...
3805	626	761	110		703-04	35 Plava . . .		2 Vaiśākha .
3806	627	762	111		*704-05	36 Śubhakṛit . . .		...
3807	628	763	112		705-06	37 Śōbhana . . .		10 Pausa .
3808	629	764	113		706-07	38 Krōdhin . . .		...
3809	630	765	114		707-08	39 Viśvāvasu . . .		...
3810	631	766	115		*708-09	40 Parābhava . . .		7 Āśvina .
3811	632	767	116		709-10	41 Plavaṅga . . .		...
3812	633	768	117		710-11	42 Kilaka . . .		...
3813	634	769	118		711-12	43 Saumya . . .		4 Ashāḍha .
3814	635	770	119		*712-13	44 Sādbāraṇa . . .		...
3815	636	771	120		713-14	45 Virōdbakṛit . . .		12 Phālguna .
3816	637	772	121		714-15	46 Paridhāvin . . .		...
3817	638	773	122		715-16	47 Pramādin . . .		...
3818	639	774	123		*716-17	48 Ānanda . . .		9 Mārgaśīra .
3819	640	775	124		717-18	49 Rākeśasa . . .		...
3820	641	776	125		718-19	50 Ānala . . .		...

XO—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-sankranti.	Day and month, A.D.	Week-day.	$a$ (here = $t$ , the index of the $tithi$ ).	
13	14	17	19	20	23	1
21 Mar. (80)	0 Sat.	H. M. S. 18 29 15	3 Mar. (82)	3 Tues.	324-8681	3796
22 Mar. (81)	2 Mon.	0 41 24	21 Mar. (80)	1 Sun.	20-4135	3797
21 Mar. (81)	3 Tues.	6 53 33	10 Mar. (70)	6 Fri.	234-7688	3798
21 Mar. (80)	4 Wed.	13 5 42	27 Feb. (58)	3 Tues.	110-4911	3799
21 Mar. (80)	5 Thur.	19 17 51	18 Mar. (77)	2 Mon.	145-1735	3800
22 Mar. (81)	0 Sat.	1 30 0	7 Mar. (66)	6 Fri.	20-8963	3801
21 Mar. (81)	1 Sun.	7 42 9	25 Feb. (56)	4 Wed.	235-2512	3802
21 Mar. (80)	2 Mon.	13 54 16	15 Mar. (74)	3 Tues.	269-9336	3803
21 Mar. (80)	3 Tues.	20 6 27	4 Mar. (63)	0 Sat.	145-6564	3804
22 Mar. (81)	5 Thur.	2 18 36	21 Feb. (52)	4 Wed.	21-3792	3805
21 Mar. (81)	6 Fri.	8 30 45	11 Mar. (71)	3 Tues.	56-0616	3806
21 Mar. (80)	0 Sat.	14 43 54	1 Mar. (60)	1 Sun.	270-4164	3807
21 Mar. (80)	1 Sun.	20 55 3	20 Mar. (79)	0 Sat.	305-0988	3808
22 Mar. (81)	3 Tues.	3 7 12	9 Mar. (68)	4 Wed.	180-8217	3809
21 Mar. (81)	4 Wed.	9 19 21	26 Feb. (57)	1 Sun.	56-5444	3810
21 Mar. (80)	5 Thur.	15 31 30	16 Mar. (75)	0 Sat.	91-2269	3811
21 Mar. (80)	6 Fri.	21 43 39	6 Mar. (65)	5 Thur.	305-5817	3812
22 Mar. (81)	1 Sun.	3 55 48	23 Feb. (54)	2 Mon.	181-3046	3813
21 Mar. (81)	2 Mon.	10 7 57	13 Mar. (73)	1 Sun.	215-9869	3814
21 Mar. (80)	3 Tues.	16 20 6	2 Mar. (61)	5 Thur.	91-7008	3815
21 Mar. (80)	4 Wed.	22 32 15	21 Mar. (80)	4 Wed.	126-3922	3816
22 Mar. (81)	6 Fri.	4 44 24	10 Mar. (69)	1 Sun.	2-1150	3817
21 Mar. (81)	0 Sat.	10 56 33	28 Feb. (59)	6 Fri.	216-4698	3818
21 Mar. (80)	1 Sun.	17 8 42	18 Mar. (77)	5 Thur.	251-1632	3819
21 Mar. (80)	2 Mon.	23 20 51	Mar. (66)	2 Mon.	126-8751	3820

TABLE

CONCURRENT YEAR.						JOVIAN SAMVATSAHA.		Mean intercalated (adhika) lunar month.
Kali.	Saka.	Chaitradī Vikrama.	Māhādī solar year in Bengal.	Kollam.	A.D.	Southern system.	Northern system.	
						6	7	
1	2	3	3a	4	5	6	7	8a
3821	642	777	126		719-20	51 Pīṅgala . . . .		5 Śrāvaṇa . .
3822	643	778	127		*720-21	52 Kālayakṭa . . . .		...
3823	644	779	128		721-22	53 Siddhārthin . . . .		...
3824	645	780	129		722-23	54 Raudra . . . .		2 Vaiśākha . .
3825	646	781	130		723-24	55 Darmati . . . .		...
3826	647	782	131		*724-25	56 Dundubhi . . . .		10 Pausa . .
3827	648	783	132		725-26	57 Rudhirōdgārin . . . .		...
3828	649	784	133		726-27	58 Raktāksha . . . .		...
3829	650	785	134		727-28	59 Krōdhana . . . .		7 Āśvina . .
3830	651	786	135		*728-29	60 Kahaya . . . .		...
3831	652	787	136		729-30	1 Prabhava . . . .		...
3832	653	788	137		730-31	2 Vibhava . . . .		3 Jyēsthā . .
3833	654	789	138		731-32	3 Śukla . . . .		...
3834	655	790	139		*732-33	4 Pramōda . . . .		12 Phālguna . .
3835	656	791	140		733-34	5 Prajāpati† . . . .		...
3836	657	792	141		734-35	7 Śrīmukha . . . .		...
3837	658	793	142		735-36	8 Bhāva . . . .		8 Kārttika . .
3838	659	794	143		*736-37	9 Yuvan . . . .		...
3839	660	795	144		737-38	10 Dhātṛi . . . .		...
3840	661	796	145		738-39	11 Isvara . . . .		5 Śrāvaṇa . .
3841	662	797	146		739-40	12 Bahudhānya . . . .		...
3842	663	798	147		*740-41	13 Pramāthin . . . .		...
3843	664	799	148		741-42	14 Vikrama . . . .		1 Chaitra . .
3844	665	800	149		742-43	15 Vṛisha . . . .		...
3845	666	801	150		743-44	16 Chitrabhānu . . . .		10 Pausa . .

† No. 6 Aṅgiras was suppressed according to the mean system. By the *Brahma-Siddhānta* 'true' system K.Y. 3836, A.D. 734-735, was called Aṅgiras, 7 Śrīmukha being suppressed. K.Y. 3837, A.D. 735-36, was 8 Bhāva by both systems.

KC—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	<i>a</i> (here = <i>t</i> , the index of the <i>titih</i> ).	
13	14	17	19	20	23	
		H. M. S.				1
22 Mar. (81)	4 Wed.	5 33 0	24 Feb. (55)	6 Fri.	2-5979	3821
21 Mar. (81)	5 Thur.	11 45 9	14 Mar. (74)	5 Thur.	37-2803	3822
21 Mar. (80)	6 Fri.	17 57 18	4 Mar. (83)	3 Tues.	251-6352	3823
22 Mar. (81)	1 Sun.	0 9 27	21 Feb. (52)	0 Sat.	127-3579	3824
22 Mar. (81)	2 Mon.	6 21 36	12 Mar. (71)	6 Fri.	162-0408	3825
21 Mar. (81)	3 Tues.	12 33 45	29 Feb. (60)	3 Tues.	37-7632	3826
21 Mar. (80)	4 Wed.	18 45 54	19 Mar. (78)	2 Mon.	72-4457	3827
22 Mar. (81)	6 Fri.	0 58 8	9 Mar. (68)	0 Sat.	286-8004	3828
22 Mar. (81)	0 Sat.	7 10 12	26 Feb. (57)	4 Wed.	162-5283	3829
21 Mar. (81)	1 Sun.	13 22 21	16 Mar. (76)	3 Tues.	197-2057	3830
21 Mar. (80)	2 Mon.	19 34 30	5 Mar. (64)	0 Sat.	72-9284	3831
22 Mar. (81)	4 Wed.	1 46 39	23 Feb. (54)	5 Thur.	287-2833	3832
22 Mar. (81)	5 Thur.	7 58 48	14 Mar. (73)	4 Wed.	321-9657	3833
21 Mar. (81)	6 Fri.	14 10 57	2 Mar. (62)	1 Sun.	197-6886	3834
21 Mar. (80)	0 Sat.	20 23 6	21 Mar. (80)	0 Sat.	232-3709	3835
22 Mar. (81)	2 Mon.	2 35 15	10 Mar. (69)	4 Wed.	108-0938	3836
22 Mar. (81)	3 Tues.	8 47 24	28 Feb. (59)	2 Mon.	322-4486	3837
21 Mar. (81)	4 Wed.	14 59 33	17 Mar. (77)	0 Sat.	18-4990	3838
21 Mar. (80)	5 Thur.	21 11 42	7 Mar. (66)	5 Thur.	232-8538	3839
22 Mar. (81)	0 Sat.	3 23 51	24 Feb. (55)	2 Mon.	108-5767	3840
22 Mar. (81)	1 Sun.	9 36 0	15 Mar. (74)	1 Sun.	143-2591	3841
21 Mar. (81)	2 Mon.	15 48 9	3 Mar. (63)	5 Thur.	18-9819	3842
21 Mar. (80)	3 Tues.	22 0 18	21 Feb. (52)	3 Tues.	233-3367	3843
22 Mar. (81)	5 Thur.	4 12 27	12 Mar. (71)	2 Mon.	268-0191	3844
22 Mar. (81)	6 Fri.	10 24 36	1 Mar. (60)	6 Fri.	143-7420	3845

TABLE

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3846	667	802	151		*744-45	17 Subhānu . . .		...
3847	668	803	152		745-46	18 Tārāṇa . . .		...
3848	669	804	153		746-47	19 Pārthiva . . .		6 Bhādrapada .
3849	670	805	154		747-48	20 Vyaya . . .		...
3850	671	806	155		*748-49	21 Sarvajit . . .		...
3851	672	807	156		749-50	22 Sarvadhārin . . .		3 Jyēṣṭha .
3852	673	808	157		750-51	23 Virōdhin . . .		...
3853	674	809	158		751-52	24 Vikṛita . . .		12 Phālguna .
3854	675	810	159		*752-53	25 Khara . . .		...
3855	676	811	160		753-54	26 Nandana . . .		...
3856	677	812	161		754-55	27 Vijaya . . .		8 Kārttika .
3857	678	813	162		755-56	28 Jaya . . .		...
3858	679	814	163		*756-57	29 Manmatha . . .		...
3859	680	815	164		757-58	30 Darmukha . . .		5 Śrāvaṇa .
3860	681	816	165		758-59	31 Hēmalamba . . .		...
3861	682	817	166		759-60	32 Villamba . . .		...
3862	683	818	167		*760-61	33 Vikārin . . .		1 Chaitra .
3863	684	819	168		761-62	34 Śārvarin . . .		...
3864	685	820	169		762-63	35 Plava . . .		10 Pausa .
3865	686	821	170		763-64	36 Subhakṛit . . .		...
3866	687	822	171		*764-65	37 Śōbhana . . .		...
3867	688	823	172		765-66	38 Krōdhin . . .		6 Bhādrapada .
3868	689	824	173		766-67	39 Viśvāvasu . . .		...
3869	690	825	174		767-68	40 Parābhava . . .		...
3870	691	826	175		*768-69	41 Plavaṅga . . .		3 Jyēṣṭha .

XC—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsa-samkrānti.	Day and month, A.D.	Week-day.	a (here = t, the index of the tithi).	
13	14	17	19	20	23	
		H. M. S.				
21 Mar. (81)	0 Sat.	16 36 45	19 Mar. (79)	5 Thur.	178-4243	3846
21 Mar. (80)	1 Sun.	22 48 54	8 Mar. (67)	2 Mon.	54-1472	3847
22 Mar. (81)	3 Tues.	5 1 3	26 Feb. (57)	0 Sat.	268-5021	3848
22 Mar. (81)	4 Wed.	11 13 12	17 Mar. (76)	6 Fri.	303-1844,	3849
21 Mar. (81)	5 Thur.	17 25 21	5 Mar. (65)	3 Tues.	178-9072	3850
21 Mar. (80)	6 Fri.	23 37 30	22 Feb. (53)	0 Sat.	54-6301	3851
22 Mar. (81)	1 Sun.	5 49 39	13 Mar. (72)	6 Fri.	89-3125	3852
22 Mar. (81)	2 Mon.	12 1 48	3 Mar. (62)	4 Wed.	303-6673	3853
21 Mar. (81)	3 Tues.	18 13 57	20 Mar. (80)	2 Mon.	9999-7177§	3854
22 Mar. (81)	5 Thur.	0 26 6	10 Mar. (69)	0 Sat.	214-0726	3855
22 Mar. (81)	6 Fri.	6 38 15	27 Feb. (58)	4 Wed.	89-7953	3856
22 Mar. (81)	0 Sat.	12 50 24	18 Mar. (77)	3 Tues.	124-4778	3857
21 Mar. (81)	1 Sun.	19 2 33	6 Mar. (66)	0 Sat.	0-2006	3858
22 Mar. (81)	3 Tues.	1 14 42	24 Feb. (55)	5 Thur.	214-5555	3859
22 Mar. (81)	4 Wed.	7 26 51	15 Mar. (74)	4 Wed.	249-2378	3860
22 Mar. (81)	5 Thur.	13 39 0	4 Mar. (63)	1 Sun.	124-9607	3861
21 Mar. (81)	6 Fri.	19 51 9	21 Feb. (52)	5 Thur.	0-6835	3862
22 Mar. (81)	1 Sun.	2 3 18	11 Mar. (70)	4 Wed.	35-3658	3863
22 Mar. (81)	2 Mon.	8 15 27	1 Mar. (60)	2 Mon.	249-7207	3864
22 Mar. (81) *	3 Tues.	14 27 36	20 Mar. (79)	1 Sun.	284-4031	3865
21 Mar. (81)	4 Wed.	20 39 45	8 Mar. (68)	5 Thur.	160-1261	3866
22 Mar. (81)	6 Fri.	2 51 54	25 Feb. (56)	2 Mon.	35-8488	3867
22 Mar. (81)	0 Sat.	9 4 3	16 Mar. (75)	1 Sun.	70-5312	3868
22 Mar. (81)	1 Sun.	15 16 12	6 Mar. (65)	6 Fri.	284-8860	3869
21 Mar. (81)	2 Mon.	21 28 21	23 Feb. (54)	3 Tues.	160-6088	3870

§ Chaitra śukla 1 was suppressed.

TABLE

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Śaka.	Chaitradī Vikrama.	Mēshādī solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3871	692	827	176		769-70	42 Kilaka . . .		...
3872	693	828	177		770-71	43 Saumya . . .		11 Māgha .
3873	694	829	178		771-72	44 Sādhāraṇa . . .		...
3874	695	830	179		*772-73	45 Virōdhakṛit . . .		...
3875	696	831	180		773-74	46 Paridhāvin . . .		8 Kārttika .
3876	697	832	181		774-75	47 Pramādin . . .		...
3877	698	833	182		775-76	48 Ānanda . . .		...
3878	699	834	183		*776-77	49 Rākshasa . . .		4 Āshāḍha .
3879	700	835	184		777-78	50 Anala . . .		...
3880	701	836	185		778-79	51 Piṅgala . . .		...
3881	702	837	186		779-80	52 Kālayukta . . .		1 Chaitra .
3882	703	838	187		*780-81	53 Siddhārthin . . .		...
3883	704	839	188		781-82	54 Raudra . . .		9 Mārgasīra .
3884	705	840	189		782-83	55 Durmati . . .		...
3885	706	841	190		783-84	56 Dundubhi . . .		...
3886	707	842	191		*784-85	57 Rudhirōdgārin . . .		6 Bhādrapada .
3887	708	843	192		785-86	58 Raktāksha . . .		...
3888	709	844	193		786-87	59 Krōdhana . . .		...
3889	710	845	194		787-88	60 Kahaya . . .		3 Jyēshṭha .
3890	711	846	195		*788-89	1 Prabhava . . .		...
3891	712	847	196		789-90	2 Vibhava . . .		11 Māgha .
3892	713	848	197		790-91	3 Śukla . . .		...
3893	714	849	198		791-92	4 Pramōda . . .		...
3894	715	850	199		*792-93	5 Prajāpati . . .		8 Kārttika .
3895	716	851	200		793-94	6 Angiras . . .		...

XC—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Māsha-saṁkrānti.	Day and month, A.D.	Week-day.	<i>a</i> (here = <i>t</i> , the index of the <i>tithi</i> ).	
13	14	17	19	20	23	
		H. M. S.				
22 Mar. (81) . . .	4 Wed. . .	3 40 30	13 Mar. (72) . . .	2 Mon. . .	195-2912	3871
22 Mar. (81) . . .	5 Thur. . .	9 52 39	2 Mar. (61) . . .	6 Fri. . .	71-0141	3872
22 Mar. (81) . . .	6 Fri. . .	16 4 48	21 Mar. (80) . . .	5 Thur. . .	105-6965	3873
21 Mar. (81) . . .	0 Sat. . .	22 16 57	10 Mar. (70) . . .	3 Tues. . .	320-0518	3874
22 Mar. (81) . . .	2 Mon. . .	4 29 6	27 Feb. (58) . . .	0 Sat. . .	195-7741	3875
22 Mar. (81) . . .	3 Tues. . .	10 41 15	18 Mar. (77) . . .	6 Fri. . .	230-4566	3876
22 Mar. (81) . . .	4 Wed. . .	16 53 24	7 Mar. (66) . . .	3 Tues. . .	106-1793	3877
21 Mar. (81) . . .	5 Thur. . .	23 5 33	25 Feb. (56) . . .	1 Sun. . .	320-5342	3878
22 Mar. (81) . . .	0 Sat. . .	5 17 42	14 Mar. (73) . . .	6 Fri. . .	16-5846	3879
22 Mar. (81) . . .	1 Sun. . .	11 29 51	4 Mar. (63) . . .	4 Wed. . .	230-9395	3880
22 Mar. (81) . . .	2 Mon. . .	17 42 0	21 Feb. (52) . . .	1 Sun. . .	106-6622	3881
21 Mar. (81) . . .	3 Tues. . .	23 54 9	11 Mar. (71) . . .	0 Sat. . .	141-3446	3882
22 Mar. (81) . . .	5 Thur. . .	6 6 18	28 Feb. (59) . . .	4 Wed. . .	17-0675	3883
22 Mar. (81) . . .	6 Fri. . .	12 18 27	19 Mar. (78) . . .	3 Tues. . .	51-7499	3884
22 Mar. (81) . . .	0 Sat. . .	18 30 36	9 Mar. (68) . . .	1 Sun. . .	266-1047	3885
22 Mar. (82) . . .	2 Mon. . .	0 42 45	26 Feb. (57) . . .	5 Thur. . .	141-8276	3886
22 Mar. (81) . . .	3 Tues. . .	6 54 54	16 Mar. (75) . . .	4 Wed. . .	176-5100	3887
22 Mar. (81) . . .	4 Wed. . .	13 7 3	5 Mar. (64) . . .	1 Sun. . .	52-2327	3888
22 Mar. (81) . . .	5 Thur. . .	19 19 12	23 Feb. (54) . . .	6 Fri. . .	266-5876	3889
22 Mar. (82) . . .	0 Sat. . .	1 31 21	13 Mar. (73) . . .	5 Thur. . .	301-2700	3890
22 Mar. (81) . . .	1 Sun. . .	7 43 30	2 Mar. (61) . . .	2 Mon. . .	176-9929	3891
22 Mar. (81) . . .	2 Mon. . .	18 55 39	21 Mar. (80) . . .	1 Sun. . .	211-6752	3892
22 Mar. (81) . . .	3 Tues. . .	20 7 48	10 Mar. (69) . . .	5 Thur. . .	87-3981	3893
22 Mar. (82) . . .	5 Thur. . .	2 19 57	28 Feb. (59) . . .	3 Tues. . .	301-7530	3894
22 Mar. (81) . . .	6 Fri. . .	8 32 6	17 Mar. (76) . . .	1 Sun. . .	9997-8033 §	3895

§ Chaitra Śukla 1 was suppressed.



TABLE

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3896	717	852	201		794-95	7 Śrīmukha . . .		...
3897	718	853	202		795-96	8 Bhāva . . .		4 Āshāḍha .
3898	719	854	203		*796-97	9 Yavan . . .		...
3899	720	855	204		797-98	10 Dhātṛi . . .		...
3900	721	856	205		798-99	11 Isvara . . .		1 Chaitra .
3901	722	857	206		799-800	12 Bahndhānya . . .		...
3902	723	858	207		*800-01	13 Pramāthin . . .		9 Mārgaśīra .
3903	724	859	208		801-02	14 Vikrama . . .		...
3904	725	860	209		802-03	15 Vṛisha . . .		...
3905	726	861	210		803-04	16 Chitrabhānu . . .		6 Bhādrapada .
3906	727	862	211		*804-05	17 Subhānu . . .		...
3907	728	863	212		805-06	18 Tāraṇa . . .		...
3908	729	864	213		806-07	19 Pārthiva . . .		2 Vaiśākha .
3909	730	865	214		807-08	20 Vyaya . . .		...
3910	731	866	215		*808-09	21 Sarvajit . . .		11 Māgha .
3911	732	867	216		809-10	22 Sarvadhārin . . .		...
3912	733	868	217		810-11	23 Virōdhin . . .		...
3913	734	869	218		811-12	24 Vikṛita . . .		7 Āśvina .
3914	735	870	219		*812-13	25 Khara . . .		...
3915	736	871	220		813-14	26 Nandana . . .		...
3916	737	872	221		814-15	27 Vijaya . . .		4 Āshāḍha .
3917	738	873	222		815-16	28 Jaya . . .		...
3918	739	874	223		*816-17	29 Manmatha . . .		12 Phālguna .
3919	740	875	224		817-18	30 Durmukha . . .		...
3920	741	876	225		818-19	31 Hēmalamba† . . .		...

† 32 Vilamba was suppressed by mean reckoning. By *Brahma-Siddhānta* "true" reckoning the year K. Y. 3921, A.D. 819-20, was 32 "Vilamba," and 33 Vikārin was suppressed.

XC—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mōsha-samkrānti.	Day and month, A.D.	Week-day.	a (here = t, the index of the <i>tithi</i> ).	
13	14	17	19	20	23	
		H. M. S.				
22 Mar. (81) . . .	0 Sat. . .	14 44 15	7 Mar. (66) . . .	6 Fri. . .	212-1581	3896
22 Mar. (81) . . .	1 Sun. . .	20 56 24	24 Feb. (55) . . .	3 Tues. . .	87-8810	3897
22 Mar. (82) . . .	3 Tues. . .	3 8 33	14 Mar. (74) . . .	2 Mon. . .	122-5633	3898
22 Mar. (81) . . .	4 Wed. . .	9 20 42	3 Mar. (62) . . .	6 Fri. . .	9998-2862§	3899
22 Mar. (81) . . .	5 Thur. . .	15 32 51	21 Feb. (52) . . .	4 Wed. . .	212-6410	3900
22 Mar. (81) . . .	6 Fri. . .	21 45 0	12 Mar. (71) . . .	3 Tues. . .	247-3234	3901
22 Mar. (82) . . .	1 Sun. . .	3 57 9	29 Feb. (60) . . .	0 Sat. . .	123-0463	3902
22 Mar. (81) . . .	2 Mon. . .	10 9 18	19 Mar. (78) . . .	6 Fri. . .	157-7287	3903
22 Mar. (81) . . .	3 Tues. . .	16 21 27	8 Mar. (67) . . .	3 Tues. . .	33-4515	3904
22 Mar. (81) . . .	4 Wed. . .	22 33 36	26 Feb. (57) . . .	1 Sun. . .	247-8064	3905
22 Mar. (82) . . .	6 Fri. . .	4 45 45	16 Mar. (76) . . .	0 Sat. . .	282-4888	3906
22 Mar. (81) . . .	0 Sat. . .	10 57 54	5 Mar. (64) . . .	4 Wed. . .	158-2115	3907
22 Mar. (81) . . .	1 Sun. . .	17 10 3	22 Feb. (53) . . .	1 Sun. . .	33-9344	3908
22 Mar. (81) . . .	2 Mon. . .	23 22 12	13 Mar. (72) . . .	0 Sat. . .	68-6168	3909
22 Mar. (82) . . .	4 Wed. . .	5 34 21	2 Mar. (62) . . .	5 Thur. . .	282-9716	3910
22 Mar. (81) . . .	5 Thur. . .	11 46 30	21 Mar. (80) . . .	4 Wed. . .	317-6540	3911
22 Mar. (81) . . .	6 Fri. . .	17 58 39	10 Mar. (69) . . .	1 Sun. . .	193-3769	3912
23 Mar. (82) . . .	1 Sun. . .	0 10 48	27 Feb. (58) . . .	5 Thur. . .	69-0998	3913
22 Mar. (82) . . .	2 Mon. . .	6 22 57	17 Mar. (77) . . .	4 Wed. . .	103-7821	3914
22 Mar. (81) . . .	3 Tues. . .	12 35 6	7 Mar. (66) . . .	2 Mon. . .	318-1369	3915
22 Mar. (81) . . .	4 Wed. . .	18 47 15	24 Feb. (55) . . .	6 Fri. . .	193-8598	3916
23 Mar. (82) . . .	6 Fri. . .	0 59 24	15 Mar. (74) . . .	5 Thur. . .	228-5421	3917
23 Mar. (82) . . .	0 Sat. . .	7 11 33	3 Mar. (63) . . .	2 Mon. . .	104-2650	3918
22 Mar. (81) . . .	1 Sun. . .	13 23 42	22 Mar. (81) . . .	1 Sun. . .	138-9474	3919
23 Mar. (81) . . .	2 Mon. . .	19 35 51	11 Mar. (70) . . .	5 Thur. . .	14-6703	3920

§ Chaitra *śukla* 1 was suppressed.

TABLE

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēṣādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3021	742	877	226		819-20	33 <i>Vikārin</i>	.	9 Mārgaśīra
3022	743	878	227		*820-21	34 <i>Śārvarin</i>	.	...
3023	744	879	228		821-22	35 <i>Plava</i>	.	...
3024	745	880	229		822-23	36 <i>Śubhakṛit</i>	.	6 Bhādrapada†
3025	746	881	230		823-24	37 <i>Śōbhana</i>	.	...
3026	747	882	231		*824-25	38 <i>Krōdhin</i>	.	...
3027	748	883	232	0-1	825-26	39 <i>Viśvāvasu</i>	.	2 Vaiśākha
3028	749	884	233	1-2	826-27	40 <i>Parābhava</i>	.	...
3029	750	885	234	2-3	827-28	41 <i>Plavaṅga</i>	.	11 Māgha
3030	751	886	235	3-4	*828-29	42 <i>Kilaka</i>	.	...
3031	752	887	236	4-5	829-30	43 <i>Saumya</i>	.	...
3032	753	888	237	5-6	830-31	44 <i>Sādhāraṇa</i>	.	7 Āśvina
3033	754	889	238	6-7	831-32	45 <i>Virōdhakṛit</i>	.	...
3034	755	890	239	7-8	*832-33	46 <i>Paridhāvin</i>	.	...
3035	756	891	240	8-9	833-34	47 <i>Pramādin</i>	.	4 Āshāḍha
3036	757	892	241	9-10	834-35	48 <i>Ānanda</i>	.	...
3037	758	893	242	10-11	835-36	49 <i>Rākshasa</i>	.	12 Phālguna
3038	759	894	243	11-12	*836-37	50 <i>Anala</i>	.	...
3039	760	895	244	12-13	837-38	51 <i>Pīṅgala</i>	.	...
3040	761	896	245	13-14	838-39	52 <i>Kālayukta</i>	.	9 Mārgaśīra
3041	762	897	246	14-15	839-40	53 <i>Siddhārthin</i>	.	...
3042	763	898	247	15-16	*840-41	54 <i>Raudra</i>	.	...
3043	764	899	248	16-17	841-42	55 <i>Durmati</i>	.	5 Śrāvapa
3044	765	900	249	17-18	842-43	56 <i>Dundubhi</i>	.	...
3045	766	901	250	18-19	843-44	57 <i>Rudhirōdgārin</i>	.	...

† See "Remarks," p. 215 above.

XC—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITEA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-sankrānti.	Day and month, A.D.	Week-day.	<i>a</i> (here = <i>t</i> , the index of the <i>tithi</i> ).	
13	14	17	19	20	23	1
		H. M. S.				
23 Mar. (82)	4 Wed.	1 48 0	1 Mar. (60)	3 Tues.	229-0250	3921
22 Mar. (82)	5 Thur.	8 0 9	19 Mar. (79)	2 Mon.	263-7074	3922
22 Mar. (81)	6 Fri.	14 12 18	8 Mar. (67)	6 Fri.	139-4313	3923
22 Mar. (81)	0 Sat.	20 24 27	25 Feb. (56)	3 Tues.	15-1531	3924
23 Mar. (82)	2 Mon.	2 36 36	16 Mar. (75)	2 Mon.	49-8355	3925
22 Mar. (82)	3 Tues.	8 48 45	5 Mar. (65)	0 Sat.	264-1904	3926
22 Mar. (81)	4 Wed.	15 0 54	22 Feb. (53)	4 Wed.	139-9132	3927
22 Mar. (81)	5 Thur.	21 13 3	13 Mar. (72)	3 Tues.	174-5955	3928
23 Mar. (82)	0 Sat.	3 25 12	2 Mar. (61)	0 Sat.	50-3184	3929
22 Mar. (82)	1 Sun.	9 37 21	20 Mar. (80)	6 Fri.	85-0009	3930
22 Mar. (81)	2 Mon.	15 49 30	10 Mar. (69)	4 Wed.	299-3556	3931
22 Mar. (81)	3 Tues.	22 1 39	27 Feb. (58)	1 Sun.	175-0784	3932
23 Mar. (82)	5 Thur.	4 13 48	18 Mar. (77)	0 Sat.	209-7609	3933
22 Mar. (82)	6 Fri.	16 25 57	6 Mar. (66)	4 Wed.	85-4837	3934
22 Mar. (81)	0 Sat.	16 38 6	24 Feb. (55)	2 Mon.	299-8385	3935
22 Mar. (81)	1 Sun.	22 50 15	14 Mar. (73)	0 Sat.	9995-8889 §	3936
23 Mar. (82)	3 Tues.	5 2 24	4 Mar. (63)	5 Thur.	210-2438	3937
22 Mar. (82)	4 Wed.	11 14 33	22 Mar. (82)	4 Wed.	244-9262	3938
22 Mar. (81)	5 Thur.	17 26 42	11 Mar. (70)	1 Sun.	120-6400	3939
22 Mar. (81)	6 Fri.	23 38 51	28 Feb. (59)	5 Thur.	9996-3718 §	3940
23 Mar. (82)	1 Sun.	5 51 0	19 Mar. (78)	4 Wed.	31-0542	3941
22 Mar. (82)	2 Mon.	12 3 9	8 Mar. (68)	2 Mon.	245-4000	3942
22 Mar. (81)	3 Tues.	18 15 18	25 Feb. (56)	6 Fri.	121-1819	3943
23 Mar. (82)	5 Thur.	0 27 27	16 Mar. (75)	5 Thur.	155-8143	3944
23 Mar. (82)	6 Fri.	6 39 36	5 Mar. (64)	2 Mon.	31-5372	3945

§ Chaitra śukla 1 was suppressed.

TABLE

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Māghādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
3946	767	902	251	19-20	*844-45	58 Raktāksha . . .	2 Vaiśākha . . .	
3947	768	903	252	20-21	845-46	59 Krōdhana . . .	...	
3948	769	904	253	21-22	846-47	60 Kshaya . . .	10 Pausa . . .	
3949	770	905	254	22-23	847-48	1 Prabhava . . .	...	
3950	771	906	255	23-24	*848-49	2 Vibhava . . .	...	
3951	772	907	256	24-25	849-50	3 Śukla . . .	7 Āśvina . . .	
3952	773	908	257	25-26	850-51	4 Pramōda . . .	...	
3953	774	909	258	26-27	851-52	5 Prajāpati . . .	...	
3954	775	910	259	27-28	*852-53	6 Āngiras . . .	3 Jyēṣṭha . . .	
3955	776	911	260	28-29	853-54	7 Śrīmukha . . .	...	
3956	777	912	261	29-30	854-55	8 Bhāva . . .	12 Phālguna . . .	
3957	778	913	262	30-31	855-56	9 Yuvan . . .	...	
3958	779	914	263	31-32	*856-57	10 Dhātṛi . . .	...	
3959	780	915	264	32-33	857-58	11 Īvara . . .	8 Kārttika . . .	
3960	781	916	265	33-34	858-59	12 Bahudhānya . . .	...	
3961	782	917	266	34-35	859-60	13 Pramāthin . . .	...	
3962	783	918	267	35-36	*860-61	14 Vikrama . . .	5 Srāvaṇa . . .	
3963	784	919	268	36-37	861-62	15 Vṛisha . . .	...	
3964	785	920	269	37-38	862-63	16 Chitrabhānu . . .	...	
3965	786	921	270	38-39	863-64	17 Subhānu . . .	2 Vaiśākha . . .	
3966	787	922	271	39-40	*864-65	18 Tārana . . .	...	
3967	788	923	272	40-41	865-66	19 Pārthiva . . .	10 Pausa . . .	
3968	789	924	273	41-42	866-67	20 Vyaya . . .	...	
3969	790	925	274	42-43	867-68	21 Sarvajit . . .	...	
3970	791	926	275	43-44	*868-69	22 Sarvadhārin . . .	7 Āśvina . . .	

XC—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITEA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēśha-saṅkrānti.	Day and month, A.D.	Week-day.	a (here = t, the index of the tī/Āt).	
18	14	17	19	20	23	
		H. M. S.				
22 Mar. (82) . . .	0 Sat. . .	12 51 45	23 Feb. (54) . . .	0 Sat. . .	245-8919	3946
22 Mar. (81) . . .	1 Sun. . .	19 3 54	13 Mar. (76) . . .	6 Fri. . .	280-5743	3947
23 Mar. (82) . . .	3 Tues. . .	1 16 3	2 Mar. (61) . . .	3 Tues. . .	156-2972	3948
23 Mar. (82) . . .	4 Wed. . .	7 23 12	21 Mar. (80) . . .	2 Mon. . .	190-9796	3949
22 Mar. (82) . . .	5 Thur. . .	13 40 21	9 Mar. (69) . . .	6 Fri. . .	66-7024	3950
22 Mar. (81) . . .	6 Fri. . .	19 52 30	27 Feb. (58) . . .	4 Wed. . .	281-0572	3951
23 Mar. (82) . . .	1 Sun. . .	2 4 39	18 Mar. (77) . . .	3 Tues. . .	315-7397	3952
23 Mar. (82) . . .	2 Mon. . .	8 16 48	7 Mar. (66) . . .	0 Sat. . .	191-4624	3953
22 Mar. (82) . . .	3 Tues. . .	14 23 57	24 Feb. (55) . . .	4 Wed. . .	67-1853	3954
22 Mar. (81) . . .	4 Wed. . .	20 41 6	14 Mar. (73) . . .	3 Tues. . .	101-8677	3955
23 Mar. (82) . . .	6 Fri. . .	2 53 15	4 Mar. (63) . . .	1 Sun. . .	316-2225	3956
23 Mar. (82) . . .	0 Sat. . .	9 5 24	22 Mar. (81) . . .	6 Fri. . .	12-2729	3957
22 Mar. (82) . . .	1 Sun. . .	15 17 33	11 Mar. (71) . . .	4 Wed. . .	226-6278	3958
22 Mar. (81) . . .	2 Mon. . .	21 29 42	28 Feb. (59) . . .	1 Sun. . .	102-3506	3959
23 Mar. (82) . . .	4 Wed. . .	3 41 51	19 Mar. (78) . . .	0 Sat. . .	137-0329	3960
23 Mar. (82) . . .	5 Thur. . .	9 54 0	8 Mar. (67) . . .	4 Wed. . .	12-7558	3961
22 Mar. (82) . . .	6 Fri. . .	16 6 9	28 Feb. (57) . . .	2 Mon. . .	227-1107	3962
22 Mar. (81) . . .	0 Sat. . .	22 18 18	16 Mar. (75) . . .	1 Sun. . .	261-7930	3963
23 Mar. (82) . . .	2 Mon. . .	4 30 27	5 Mar. (64) . . .	5 Thur. . .	137-5159	3964
23 Mar. (82) . . .	3 Tues. . .	10 42 36	22 Feb. (53) . . .	2 Mon. . .	13-2387	3965
22 Mar. (82) . . .	4 Wed. . .	16 54 45	12 Mar. (72) . . .	1 Sun. . .	47-9211	3966
22 Mar. (81) . . .	5 Thur. . .	23 6 54	2 Mar. (61) . . .	6 Fri. . .	262-2759	3967
23 Mar. (82) . . .	0 Sat. . .	5 19 3	21 Mar. (80) . . .	5 Thur. . .	296-9584	3968
23 Mar. (82) . . .	1 Sun. . .	11 31 12	10 Mar. (69) . . .	2 Mon. . .	172-6812	3969
22 Mar. (82) . . .	2 Mon. . .	17 43 21	27 Feb. (58) . . .	6 Fri. . .	48-4039	3970

TABLE

CONCURRENT YEAR.								Mean intercalated (adhika) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
3971	792	927	276	44-45	869-70	23 Virōdhin . . .	...	
3972	793	928	277	45-46	870-71	24 Vikṛita . . .	...	
3973	794	929	278	46-47	871-72	25 Khara . . .	3 Jyēshṭha .	
3974	795	930	279	47-48	*872-73	26 Nandana . . .	...	
3975	796	931	280	48-49	873-74	27 Vijaya . . .	12 Phālguna .	
3976	797	932	281	49-50	874-75	28 Jaya . . .	...	
3977	798	933	282	50-51	875-76	29 Manmatha . . .	...	
3978	799	934	283	51-52	*876-77	30 Durmukha . . .	8 Kārttika .	
3979	800	935	284	52-53	877-78	31 Hēmalamba . . .	...	
3980	801	936	285	53-54	878-79	32 Vilamba . . .	...	
3981	802	937	286	54-55	879-80	33 Vikārin . . .	5 Śrāvaṇa .	
3982	803	938	287	55-56	*880-81	34 Śarvaṇin . . .	...	
3983	804	939	288	56-57	881-82	35 Plava . . .	...	
3984	805	940	289	57-58	882-83	36 Śubhakṛit . . .	1 Chaitra .	
3985	806	941	290	58-59	883-84	37 Śobhana . . .	...	
3986	807	942	291	59-60	*884-85	38 Krōdhin . . .	10 Pausa .	
3987	808	943	292	60-61	885-86	39 Viśvāvasu . . .	...	
3988	809	944	293	61-62	886-87	40 Parābhava . . .	...	
3989	810	945	294	62-63	887-88	41 Plavaṅga . . .	6 Bhādrapada .	
3990	811	946	295	63-64	*888-89	42 Kilaka . . .	...	
3991	812	947	296	64-65	889-90	43 Saumya . . .	...	
3992	813	948	297	65-66	890-91	44 Sūdhārava . . .	3 Jyēshṭha .	
3993	814	949	298	66-67	891-92	45 Virōdhakṛit . . .	...	
3994	815	950	299	67-68	*892-93	46 Paidhāvin . . .	11 Māgha .	
3995	816	951	300	68-69	893-94	47 Pramādin . . .	...	

XC—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITEA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	a (here = t, the index of the tithi).	
13	14	17	19	20	23	
		H. M. S.				
22 Mar. (81)	3 Tues.	23 55 30	17 Mar. (76)	5 Thur.	83·0864	3971
23 Mar. (82)	5 Thur.	6 7 39	7 Mar. (66)	3 Tues.	297·4412	3972
23 Mar. (82)	6 Fri.	12 19 48	24 Feb. (55)	0 Sat.	173·1641	3973
22 Mar. (82)	0 Sat.	18 31 57	14 Mar. (74)	6 Fri.	207·8464	3974
23 Mar. (82)	2 Mon.	0 44 6	3 Mar. (62)	3 Tues.	83·5693	3975
23 Mar. (82)	3 Tues.	6 56 15	22 Mar. (81)	2 Mon.	118·2517	3976
23 Mar. (82)	4 Wed.	13 8 24	12 Mar. (71)	0 Sat.	332·6065	3977
22 Mar. (82)	5 Thur.	19 20 33	29 Feb. (60)	4 Wed.	208·3293	3978
23 Mar. (82)	0 Sat.	1 32 42	19 Mar. (78)	3 Tues.	243·0118	3979
23 Mar. (82)	1 Sun.	7 44 51	8 Mar. (67)	0 Sat.	118·7346	3980
23 Mar. (82)	2 Mon.	13 57 0	26 Feb. (57)	5 Thurs.	333·0894	3981
22 Mar. (82)	3 Tues.	20 9 9	15 Mar. (75)	3 Tues.	29·1398	3982
23 Mar. (82)	5 Thur.	2 21 18	5 Mar. (64)	1 Sun.	243·4947	3983
23 Mar. (82)	6 Fri.	8 33 27	22 Feb. (53)	5 Thur.	119·2175	3984
23 Mar. (82)	0 Sat.	14 45 36	13 Mar. (72)	4 Wed.	153·8998	3985
22 Mar. (82)	1 Sun.	20 57 45	1 Mar. (61)	1 Sun.	29·6227	3986
23 Mar. (82)	3 Tues.	3 9 54	20 Mar. (79)	0 Sat.	64·3052	3987
23 Mar. (82)	4 Wed.	9 22 3	10 Mar. (69)	5 Thur.	278·6599	3988
23 Mar. (82)	5 Thur.	15 34 12	27 Feb. (58)	2 Mon.	154·3828	3989
22 Mar. (82)	6 Fri.	21 46 21	17 Mar. (77)	1 Sun.	189·0652	3990
23 Mar. (82)	1 Sun.	3 58 30	6 Mar. (65)	5 Thur.	64·7881	3991
23 Mar. (82)	2 Mon.	10 10 39	24 Feb. (55)	3 Tues.	279·1428	3992
23 Mar. (82)	3 Tues.	16 22 48	15 Mar. (74)	2 Mon.	313·8252	3993
22 Mar. (82)	4 Wed.	22 34 57	3 Mar. (63)	6 Fri.	189·5481	3994
23 Mar. (82)	6 Fri.	4 47 6	22 Mar. (81)	5 Thur.	224·3304	3995



TABLE

CONCURRENT YEAR.								Mean intercalated (adhika) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Māghādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
3996	817	952	301	69-70	894-95	48 Ānanda . . .		...
3997	818	953	302	70-71	895-96	49 Rākshasa . . .		8 Kārttika .
3998	819	954	303	71-72	*896-97	50 Anala . . .		...
3999	820	955	304	72-73	897-98	51 Pīngala . . .		...
4000	821	956	305	73-74	898-99	52 Kālayukta . . .		5 Śrāvaṇa .
4001	822	957	306	74-75	899-900	53 Siddhārthin . . .		...
4002	823	958	307	75-76	*900-01	54 Raudra . . .		...
4003	824	959	308	76-77	901-02	55 Darmati . . .		1 Chaitra .
4004	825	960	309	77-78	902-03	56 Dundubhi . . .		...
4005	826	961	310	78-79	903-04	57 Rudhirōlgārīn† . . .		10 Pausa .
4006	827	962	311	79-80	*904-05	58 Raktāksha . . .	59 Krōdhana . . .	...
4007	828	963	312	80-81	905-06	59 Krōdhana . . .	60 Kshaya . . .	...
4008	829	964	313	81-82	906-07	60 Kshaya . . .	1 Prabhava . . .	6 Bhādrapada .
4009	830	965	314	82-83	907-08	1 Prabhava . . .	2 Vibhava . . .	...
4010	831	966	315	83-84	*908-09	2 Vibhava . . .	3 Śukla . . .	...
4011	832	967	316	84-85	909-10	3 Śukla . . .	4 Pramōda . . .	3 Jyēṣṭha .
4012	833	968	317	85-86	910-11	4 Pramōda . . .	5 Prajāpati . . .	...
4013	834	969	318	86-87	911-12	5 Prajāpati . . .	6 Aṅgiras . . .	11 Māgha .
4014	835	970	319	87-88	*912-13	6 Aṅgiras . . .	7 Śrīmukha . . .	...
4015	836	971	320	88-89	913-14	7 Śrīmukha . . .	8 Bhāva . . .	...
4016	837	972	321	89-90	914-15	8 Bhāva . . .	9 Yuvan . . .	8 Kārttika .
4017	838	973	322	90-91	915-16	9 Yuvan . . .	10 Dhātṛi . . .	...
4018	839	974	323	91-92	*916-17	10 Dhātṛi . . .	11 Ívara . . .	...
4019	840	975	324	92-93	917-18	11 Ívara . . .	12 Bahudhānya . . .	4 Ashāḍha .
4020	841	976	325	93-94	918-19	12 Bahudhānya . . .	13 Pramāthīn . . .	...

† 58 Raktāksha was suppressed in the north. By southern reckoning there was no suppression, and there has been none since. By *Brahma-Siddhanta* "true" reckoning K.Y. 4006, A.D. 904-05, was 58 Raktāksha, 59 Krōdhana being suppressed in the north.

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XC—contd.

COMMENCEMENT OF THE							Kali.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).				
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	a (here = t, the index of the <i>tithi</i> ).		
13	14	17	19	20	23	1	
		H. M. S.					
23 Mar. (82) . . .	0 Sat. . .	10 59 15	11 Mar. (70) . . .	2 Mon. . .	99-9533	3996	
23 Mar. (82) . . .	1 Sun. . .	17 11 24	1 Mar. (60) . . .	0 Sat. . .	314-3081	3997	
22 Mar. (82) . . .	2 Mon. . .	23 23 33	18 Mar. (78) . . .	5 Thur. . .	10-3584	3998	
23 Mar. (82) . . .	4 Wed. . .	5 35 42	8 Mar. (67) . . .	3 Tues. . .	224-7133	3999	
23 Mar. (82) . . .	5 Thur. . .	11 47 51	25 Feb. (56) . . .	0 Sat. . .	100-4362	4000	
23 Mar. (82) . . .	6 Fri. . .	18 0 0	16 Mar. (75) . . .	6 Fri. . .	135-1186	4001	
23 Mar. (83) . . .	1 Sun. . .	0 12 9	4 Mar. (64) . . .	3 Tues. . .	10-8415	4002	
23 Mar. (82) . . .	2 Mon. . .	6 24 18	22 Feb. (53) . . .	1 Sun. . .	225-4963	4003	
23 Mar. (82) . . .	3 Tues. . .	12 36 27	13 Mar. (72) . . .	0 Sat. . .	259-8786	4004	
23 Mar. (82) . . .	4 Wed. . .	18 48 36	2 Mar. (61) . . .	4 Wed. . .	135-6015	4005	
23 Mar. (83) . . .	6 Fri. . .	0 45	20 Mar. (80) . . .	3 Tues. . .	170-2839	4006	
23 Mar. (82) . . .	0 Sat. . .	7 12 54	9 Mar. (68) . . .	0 Sat. . .	46-0067	4007	
23 Mar. (82) . . .	1 Sun. . .	13 25 3	27 Feb. (58) . . .	5 Thur. . .	260-3616	4008	
23 Mar. (82) . . .	2 Mon. . .	19 37 12	18 Mar. (77) . . .	4 Wed. . .	295-0440	4009	
23 Mar. (83) . . .	4 Wed. . .	1 49 21	6 Mar. (66) . . .	1 Sun. . .	170-7668	4010	
23 Mar. (82) . . .	5 Thur. . .	8 1 30	23 Feb. (54) . . .	5 Thur. . .	46-4896	4011	
23 Mar. (82) . . .	6 Fri. . .	14 13 39	14 Mar. (73) . . .	4 Wed. . .	81-1720	4012	
23 Mar. (82) . . .	0 Sat. . .	20 25 48	4 Mar. (63) . . .	2 Mon. . .	295-5269	4013	
23 Mar. (83) . . .	2 Mon. . .	2 37 57	22 Mar. (82) . . .	1 Sun. . .	330-492	4014	
23 Mar. (82) . . .	3 Tues. . .	8 50 6	11 Mar. (70) . . .	5 Thur. . .	205-9321	4015	
23 Mar. (82) . . .	4 Wed. . .	15 2 15	28 Feb. (59) . . .	2 Mon. . .	81-6549	4016	
23 Mar. (82) . . .	5 Thur. . .	21 14 24	19 Mar. (78) . . .	1 Sun. . .	116-3373	4017	
23 Mar. (83) . . .	0 Sat. . .	3 26 33	8 Mar. (68) . . .	6 Fri. . .	330-6921	4018	
23 Mar. (82) . . .	1 Sun. . .	9 38 42	25 Feb. (56) . . .	3 Tues. . .	206-4150	4019	
23 Mar. (82) . . .	2 Mon. . .	15 50 51	16 Mar. (75) . . .	2 Mon. . .	241-0974	4020	

TABLE

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4021	842	977	326	94-95	919-20	13 Pramāthin	14 Vikrama	...
4022	843	978	327	95-96	*920-21	14 Vikrama	15 Vṛisha	1 Chaitra
4023	844	979	328	96-97	921-22	15 Vṛisha	16 Chitrabhānu	...
4024	845	980	329	97-98	922-23	16 Chitrabhānu	17 Subhānu	9 Mārgasīra
4025	846	981	330	98-99	923-24	17 Subhānu	18 Tārana	...
4026	847	982	331	99-100	*924-25	18 Tārana	19 Pārthiva	...
4027	848	983	332	100-01	925-26	19 Pārthiva	20 Vyaya	6 Bhādrapada
4028	849	984	333	101-02	926-27	20 Vyaya	21 Sarvajit	...
4029	850	985	334	102-03	927-28	21 Sarvajit	22 Sarvadhārin	...
4030	851	986	335	103-04	*928-29	22 Sarvadhārin	23 Virōdhin	2 Vaiśākha
4031	852	987	336	104-05	929-30	23 Virōdhin	24 Vikṛita	...
4032	853	988	337	105-06	930-31	24 Vikṛita	25 Khara	11 Māgha
4033	854	989	338	106-07	931-32	25 Khara	26 Nandana	...
4034	855	990	339	107-08	*932-33	26 Nandana	27 Vijaya	...
4035	856	991	340	108-09	933-34	27 Vijaya	28 Jaya	7 Āśvina
4036	857	992	341	109-10	934-35	28 Jaya	29 Manmatha	...
4037	858	993	342	110-11	935-36	29 Manmatha	30 Durmukha	.
4038	859	994	343	111-12	*936-37	30 Durmukha	31 Hēmalamba	4 Āshāḍha
4039	860	995	344	112-13	937-38	31 Hēmalamba	32 Vilamba	.
4040	861	996	345	113-14	938-39	32 Vilamba	33 Vikārin	..
4041	862	997	346	114-15	939-40	33 Vikārin	34 Śārvarin	1 Chaitra
4042	863	998	347	115-16	*940-41	34 Śārvarin	35 Plava	...
4043	864	999	348	116-17	941-42	35 Plava	36 Śubhakṛit	9 Mārgasīra
4044	865	1000	349	117-18	942-43	36 Subhakṛit	37 Śōbhana	...
4045	866	1001	350	118-19	943-44	37 Śōbhana	38 Krōdhin	...

XC—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mōsha-samkrānti.	Day and month, A.D.	Week-day.	$\alpha$ (here = $t$ , the index of the <i>tithi</i> ).	
13	14	17	19	20	23	1
		H. M. S.				
23 Mar. (82) . . .	3 Tues. . .	22 3 0	5 Mar. (64) . . .	6 Fri. . .	116·8202	4021
23 Mar. (83) . . .	5 Thur. . .	4 15 9	23 Feb. (54) . . .	4 Wed. . .	331·1750	4022
23 Mar. (82) . . .	6 Fri. . .	10 27 18	12 Mar. (71) . . .	2 Mon. . .	27·2254	4023
23 Mar. (82) . . .	0 Sat. . .	16 39 27	2 Mar. (61) . . .	0 Sat. . .	211·5802	4024
23 Mar. (82) . . .	1 Sun. . .	22 51 36	21 Mar. (80) . . .	6 Fri. . .	276·2626	4025
23 Mar. (83) . . .	3 Tues. . .	5 3 45	9 Mar. (69) . . .	3 Tues. . .	151·9855	4026
23 Mar. (82) . . .	4 Wed. . .	11 15 54	26 Feb. (57) . . .	0 Sat. . .	27·7084	4027
23 Mar. (82) . . .	5 Thur. . .	17 28 3	17 Mar. (76) . . .	6 Fri. . .	62·3907	4028
23 Mar. (82) . . .	6 Fri. . .	23 40 12	7 Mar. (66) . . .	4 Wed. . .	276·7455	4029
23 Mar. (83) . . .	1 Sun. . .	5 52 21	24 Feb. (55) . . .	1 Sun. . .	152·4684	4030
23 Mar. (82) . . .	2 Mon. . .	12 4 30	14 Mar. (73) . . .	0 Sat. . .	187·1507	4031
23 Mar. (82) . . .	3 Tues. . .	18 16 39	3 Mar. (62) . . .	4 Wed. . .	62·8736	4032
24 Mar. (83) . . .	5 Thur. . .	0 28 48	22 Mar. (81) . . .	3 Tues. . .	97·5560	4033
23 Mar. (83) . . .	6 Fri. . .	6 40 57	11 Mar. (71) . . .	1 Sun. . .	311·9109	4034
23 Mar. (82) . . .	0 Sat. . .	12 53 6	28 Feb. (59) . . .	5 Thur. . .	187·6336	4035
23 Mar. (82) . . .	1 Sun. . .	19 5 15	19 Mar. (78) . . .	4 Wed. . .	222·3161	4036
24 Mar. (83) . . .	3 Tues. . .	1 17 24	8 Mar. (67) . . .	1 Sun. . .	98·0389	4037
23 Mar. (83) . . .	4 Wed. . .	7 29 33	26 Feb. (57) . . .	6 Fri. . .	312·3938	4038
23 Mar. (82) . . .	5 Thur. . .	13 41 42	15 Mar. (74) . . .	4 Wed. . .	8·4441	4039
23 Mar. (82) . . .	6 Fri. . .	19 53 51	5 Mar. (64) . . .	2 Mon. . .	222·7990	4040
24 Mar. (83) . . .	1 Sun. . .	2 6 0	22 Feb. (53) . . .	6 Fri. . .	98·5218	4041
23 Mar. (83) . . .	2 Mon. . .	8 18 9	12 Mar. (72) . . .	5 Thur. . .	133·2042	4042
23 Mar. (82) . . .	3 Tues. . .	14 30 18	1 Mar. (60) . . .	2 Mon. . .	8·9270	4043
23 Mar. (82) . . .	4 Wed. . .	20 42 27	20 Mar. (79) . . .	1 Sun. . .	43·6094	4044
24 Mar. (83) . . .	6 Fri. . .	2 54 36	10 Mar. (69) . . .	6 Fri. . .	257·9643	4045

TABLE

CONCURRENT YEAR.								Mean intercalated (adhika) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3 a	4	5	6	7	8a
4046	867	1002	351	119-20	*944-45	38 Krōdhin .	39 Viśvāvasu .	6 Bhādrapada .
4047	868	1003	352	120-21	945-46	39 Viśvāvasu .	40 Parābhava .	...
4048	869	1004	353	121-22	946-47	40 Parābhava .	41 Plavaṅga .	...
4049	870	1005	354	122-23	947-48	41 Plavaṅga .	42 Kīlaka .	2 Vaiśākha .
4050	871	1006	355	123-24	*948-49	42 Kīlaka .	43 Saumya .	...
4051	872	1007	356	124-25	949-50	43 Saumya .	44 Sādhārana .	11 Māgha .
4052	873	1008	357	125-26	950-51	44 Sādhārana .	45 Virōdhakṛit .	...
4053	874	1009	358	126-27	951-52	45 Virōdhakṛit .	46 Paridhāvin .	...
4054	875	1010	359	127-28	*952-53	46 Paridhāvin .	47 Pramādin .	7 Āsвина .
4055	876	1011	360	128-29	953-54	47 Pramādin .	48 Ānanda .	...
4056	877	1012	361	129-30	954-55	48 Ānanda .	49 Rākshasa .	...
4057	878	1013	362	130-31	955-56	49 Rākshasa .	50 Anala .	4 Āshāḍha .
4058	879	1014	363	131-32	*956-57	50 Anala .	51 Piṅgala .	...
4059	880	1015	364	132-33	957-58	51 Piṅgala .	52 Kālayukta .	12 Phālguna .
4060	881	1016	365	133-34	958-59	52 Kālayukta .	53 Siddhārthin .	...
4061	882	1017	366	134-35	959-60	53 Siddhārthin .	54 Randra .	...
4062	883	1018	367	135-36	*960-61	54 Randra .	55 Durmati .	9 Mārgasīra .
4063	884	1019	368	136-37	961-62	55 Durmati .	56 Dundubhi .	...
4064	885	1020	369	137-38	962-63	56 Dundubhi .	57 Rudhirōdgārin .	...
4065	886	1021	370	138-39	963-64	57 Rudhirōdgārin .	58 Raktāksha .	5 Śrāvaṇa .
4066	887	1022	371	139-40	*964-65	58 Raktāksha .	59 Krōdhana .	...
4067	888	1023	372	140-41	965-66	59 Krōdhana .	60 Kshaya .	...
4068	889	1024	373	141-42	966-67	60 Kshaya .	1 Prabhava .	2 Vaiśākha .
4069	890	1025	374	142-43	967-68	1 Prabhava .	2 Vibhava .	...
4070	891	1026	375	143-44	*968-69	2 Vibhava .	3 Sukla .	10 Pausa .

XC—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	$a$ (here $\alpha$ , the index of the $t/t_i$ ).	
13	14	17	19	20	23	
		H. M. S.				1
23 Mar. (83) . . .	0 Sat. . .	9 6 45	27 Feb. (58) . . .	3 Tues. . .	133·6871	4046
23 Mar. (82) . . .	1 Sun. . .	15 18 54	17 Mar. (76) . . .	2 Mon. . .	168·3695	4047
23 Mar. (82) . . .	2 Mon. . .	21 31 3	6 Mar. (65) . . .	6 Fri. . .	44·0923	4048
24 Mar. (83) . . .	4 Wed. . .	3 43 12	24 Feb. (55) . . .	4 Wed. . .	258·4471	4049
23 Mar. (83) . . .	5 Thur. . .	9 55 21	14 Mar. (74) . . .	3 Tues. . .	293·1295	4050
23 Mar. (82) . . .	6 Fri. . .	16 7 30	3 Mar. (62) . . .	0 Sat. . .	168·8524	4051
23 Mar. (82) . . .	0 Sat. . .	22 19 39	22 Mar. (81) . . .	6 Fri. . .	203·5348	4052
24 Mar. (83) . . .	2 Mon. . .	4 31 48	11 Mar. (70) . . .	3 Tues. . .	79·2576	4053
23 Mar. (83) . . .	3 Tues. . .	10 43 57	29 Feb. (60) . . .	1 Sun. . .	293·6125	4054
23 Mar. (82) . . .	4 Wed. . .	16 56 6	19 Mar. (78) . . .	0 Sat. . .	328·2949	4055
23 Mar. (82) . . .	5 Thur. . .	23 8 15	8 Mar. (67) . . .	4 Wed. . .	204·0176	4056
24 Mar. (83) . . .	0 Sat. . .	5 20 24	25 Feb. (56) . . .	1 Sun. . .	79·7405	4057
23 Mar. (83) . . .	1 Sun. . .	11 32 33	15 Mar. (75) . . .	0 Sat. . .	114·4229	4058
23 Mar. (82) . . .	2 Mon. . .	17 44 42	5 Mar. (64) . . .	5 Thur. . .	328·7778	4059
23 Mar. (82) . . .	3 Tues. . .	23 56 51	23 Mar. (82) . . .	1 Sun. . .	24·8281	4060
24 Mar. (83) . . .	5 Thur. . .	6 9 0	13 Mar. (72) . . .	1 Sun. . .	239·1830	4061
23 Mar. (83) . . .	6 Fri. . .	12 21 9	1 Mar. (61) . . .	5 Thur. . .	114·9058	4062
23 Mar. (82) . . .	0 Sat. . .	18 33 18	20 Mar. (79) . . .	4 Wed. . .	149·5881	4063
24 Mar. (83) . . .	2 Mon. . .	0 45 27	9 Mar. (68) . . .	1 Sun. . .	25·3110	4064
24 Mar. (83) . . .	3 Tues. . .	6 57 36	27 Feb. (58) . . .	6 Fri. . .	239·6659	4065
23 Mar. (83) . . .	4 Wed. . .	13 9 45	17 Mar. (77) . . .	5 Thur. . .	274·3483	4066
23 Mar. (82) . . .	5 Thur. . .	19 21 54	6 Mar. (65) . . .	2 Mon. . .	150·0710	4067
24 Mar. (83) . . .	0 Sat. . .	1 34 3	23 Feb. (54) . . .	6 Fri. . .	25·7939	4068
24 Mar. (83) . . .	1 Sun. . .	7 46 12	14 Mar. (73) . . .	5 Thur. . .	60·4763	4069
23 Mar. (83) . . .	2 Mon. . .	13 58 21	3 Mar. (63) . . .	3 Tues. . .	274·8311	4070



TABLE

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4071	892	1027	376	144-45	969-70	3 Śukla . .	4 Pramōda . .	...
4072	893	1028	377	145-46	970-71	4 Pramōda . .	5 Prajāpati . .	...
4073	894	1029	378	146-47	971-72	5 Prajāpati . .	6 Aṅgiras . .	7 Āsvina . .
4074	895	1030	379	147-48	*972-73	6 Aṅgiras . .	7 Śrīmukha . .	...
4075	896	1031	380	148-49	973-74	7 Śrīmukha . .	8 Bhāva . .	...
4076	897	1032	381	149-50	974-75	8 Bhāva . .	9 Yuvan . .	4 Āshādha . .
4077	898	1033	382	150-51	975-76	9 Yuvan . .	10 Dhātri . .	...
4078	899	1034	383	151-52	*976-77	10 Dhātri . .	11 Īvara . .	12 Phālguna . .
4079	900	1035	384	152-53	977-78	11 Īvara . .	12 Bahudhānya . .	...
4080	901	1036	385	153-54	978-79	12 Bahudhānya . .	13 Pramāthin . .	...
4081	902	1037	386	154-55	979-80	13 Pramāthin . .	14 Vikrama . .	9 Mārgaśīra . .
4082	903	1038	387	155-56	*980-81	14 Vikrama . .	15 Vṛisha . .	...
4083	904	1039	388	156-57	981-82	15 Vṛisha . .	16 Chitrabhānu . .	...
4084	905	1040	389	157-58	982-83	16 Chitrabhānu . .	17 Subhānu . .	5 Srāvaṇa . .
4085	906	1041	390	158-59	983-84	17 Subhānu . .	18 Tārana . .	...
4086	907	1042	391	159-60	*984-85	18 Tārana . .	19 Pārthiva . .	...
4087	908	1043	392	160-61	985-86	19 Pārthiva . .	20 Vyaya . .	2 Vaiśākha . .
4088	909	1044	393	161-62	986-87	20 Vyaya . .	21 Sarvajit . .	...
4089	910	1045	394	162-63	987-88	21 Sarvajit . .	22 Sarvadhārin . .	10 Pausa . .
4090	911	1046	395	163-64	*988-89	22 Sarvadhārin . .	23 Virōdhin . .	...
4091	912	1047	396	164-65	989-90	23 Virōdhin . .	24 Vikṛita † . .	...
4092	913	1048	397	165-66	990-91	24 Vikṛita . .	25 Nandana . .	7 Āsvina . .
4093	914	1049	398	166-67	991-92	25 Khara . .	26 Vijaya . .	...
4094	915	1050	399	167-68	*992-93	26 Nandana . .	27 Jaya . .	...
4095	916	1051	400	168-69	993-94	27 Vijaya . .	28 Manmatha . .	3 Jyēshṭha . .

† 25 Khara was suppressed in the north by the *Brahma-Siddhanta* system, whether calculated by "true" or mean reckoning.

XC—contd.

COMMENCEMENT OF THE							Kali.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITEA ŚUKLA 1 ENDS).				
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	$\alpha$ (here = $t$ , the index of the $tithi$ ).		
13	14	17	19	20	23	1	
		H. M. S.					
23 Mar. (82) . . .	3 Tues. . .	20 10 30	22 Mar. (81) . . .	2 Mon. . .	309·5135	4071	
24 Mar. (83) . . .	5 Thur. . .	2 22 39	11 Mar. (70) . . .	6 Fri. . .	185·2364	4072	
24 Mar. (83) . . .	6 Fri. . .	8 34 48	28 Feb. (59) . . .	3 Tues. . .	60·9593	4073	
23 Mar. (83) . . .	0 Sat. . .	14 46 57	18 Mar. (78) . . .	2 Mon. . .	95·6416	4074	
23 Mar. (82) . . .	1 Sun. . .	20 59 6	8 Mar. (67) . . .	0 Sat. . .	309·9964	4075	
24 Mar. (83) . . .	3 Tues. . .	3 11 15	25 Feb. (56) . . .	4 Wed. . .	185·7193	4076	
24 Mar. (83) . . .	4 Wed. . .	9 23 24	16 Mar. (75) . . .	3 Tues. . .	220·4016	4077	
23 Mar. (83) . . .	5 Thur. . .	15 35 33	4 Mar. (64) . . .	0 Sat. . .	96·1245	4078	
23 Mar. (82) . . .	6 Fri. . .	21 47 42	23 Mar. (82) . . .	6 Fri. . .	130·8069	4079	
24 Mar. (83) . . .	1 Sun. . .	3 59 51	12 Mar. (71) . . .	3 Tues. . .	6·5298	4080	
24 Mar. (83) . . .	2 Mon. . .	10 12 0	2 Mar. (61) . . .	1 Sun. . .	220·8845	4081	
23 Mar. (83) . . .	3 Tues. . .	16 24 9	20 Mar. (80) . . .	0 Sat. . .	255·5669	4082	
23 Mar. (82) . . .	4 Wed. . .	22 36 18	9 Mar. (68) . . .	4 Wed. . .	131·2898	4083	
24 Mar. (83) . . .	6 Fri. . .	4 48 27	28 Feb. (57) . . .	1 Sun. . .	7·0127	4084	
24 Mar. (83) . . .	0 Sat. . .	11 0 36	17 Mar. (76) . . .	0 Sat. . .	41·6950	4085	
23 Mar. (83) . . .	1 Sun. . .	17 12 45	6 Mar. (66) . . .	5 Thur. . .	256·0499	4086	
23 Mar. (82) . . .	2 Mon. . .	23 24 54	23 Feb. (54) . . .	2 Mon. . .	131·7727	4087	
24 Mar. (83) . . .	4 Wed. . .	5 37 3	14 Mar. (73) . . .	1 Sun. . .	166·4550	4088	
24 Mar. (83) . . .	5 Thur. . .	11 49 12	3 Mar. (62) . . .	5 Thur. . .	42·1779	4089	
23 Mar. (83) . . .	6 Fri. . .	18 1 21	21 Mar. (81) . . .	4 Wed. . .	76·8603	4090	
24 Mar. (83) . . .	1 Sun. . .	0 13 30	11 Mar. (70) . . .	2 Mon. . .	291·2152	4091	
24 Mar. (83) . . .	2 Mon. . .	6 25 39	28 Feb. (59) . . .	6 Fri. . .	166·9398	4092	
24 Mar. (83) . . .	3 Tues. . .	12 37 48	19 Mar. (78) . . .	5 Thur. . .	201·6204	4093	
23 Mar. (83) . . .	4 Wed. . .	18 49 57	7 Mar. (67) . . .	2 Mon. . .	77·3432	4094	
24 Mar. (83) . . .	6 Fri. . .	1 2 6	25 Feb. (56) . . .	0 Sat. . .	291·6980	4095	

TABLE

CONCURRENT YEAR.								Mean intercalated (adhika) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4096	917	1052	401	169-70	994-95	28 Jaya . .	30 <i>Durmukha</i> . .	...
4097	918	1053	402	170-71	995-96	29 Manmatha . .	31 Hēmalamba . .	12 Phālguna . .
4098	919	1054	403	171-72	*996-97	30 Durimukha . .	32 Vilamba . .	...
4099	920	1055	404	172-73	997-98	31 Hēmalamba . .	33 Vikārin . .	...
4100	921	1056	405	173-74	998-99	32 Vilamba . .	34 Śārvarin . .	8 Kārttika . .
4101	922	1057	406	174-75	999-1000	33 Vikārin . .	35 Plava . .	...
4102	923	1058	407	175-76	*1000-01	34 Śārvarin . .	36 Śubhakṛit . .	...
4103	924	1059	408	176-77	1001-02	35 Plava . .	37 Śōbhana . .	5 Śrāvana . .
4104	925	1060	409	177-78	1002-03	36 Śubhakṛit . .	38 Krōdhin . .	...
4105	926	1061	410	178-79	1003-04	37 Śōbhana . .	39 Viśvāvasu . .	...
4106	927	1062	411	179-80	*1004-05	38 Krōdhin . .	40 Parābhava . .	1 Chaitra . .
4107	928	1063	412	180-81	1005-06	39 Viśvāvasu . .	41 Plavaṅga . .	...
4108	929	1064	413	181-82	1006-07	40 Parābhava . .	42 Kilaka . .	10 Pausa . .
4109	930	1065	414	182-83	1007-08	41 Plavaṅga . .	43 Saumya . .	...
4110	931	1066	415	183-84	*1008-09	42 Kilaka . .	44 Sādhārāṇa . .	...
4111	932	1067	416	184-85	1009-10	43 Saumya . .	45 Virōdhakṛit . .	7 Āśvina† . .
4112	933	1068	417	185-86	1010-11	44 Sādhārāṇa . .	46 Paridhāvin . .	...
4113	934	1069	418	186-87	1011-12	45 Virōdhakṛit . .	47 Pramādin . .	...
4114	935	1070	419	187-88	*1012-13	46 Paridhāvin . .	48 Ānanda . .	3 Jyēṣṭha . .
4115	936	1071	420	188-89	1013-14	47 Pramādin . .	49 Rākshasa . .	...
4116	937	1072	421	189-90	1014-15	48 Ānanda . .	50 Anala . .	12 Phālguna . .
4117	938	1073	422	190-91	1015-16	49 Rākshasa . .	51 Piṅgala . .	...
4118	939	1074	423	191-92	*1016-17	50 Anala . .	52 Kālayukta . .	...
4119	940	1075	424	192-93	1017-18	51 Piṅgala . .	53 Siddhārthin . .	8 Kārttika . .
4120	941	1076	425	193-94	1018-19	52 Kālayukta . .	54 Randra . .	...

† See "Remarks," p. 215 above.

XC—*contd.*

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	<i>a</i> (here = <i>t</i> , the index of the <i>tithi</i> ).	
13	14	17	19	20	23	
		H. M. S.				1
24 Mar. (83) . . .	0 Sat. . .	7 14 15	16 Mar. (75) . . .	6 Fri. . .	326-3804	4096
24 Mar. (83) . . .	1 Sun. . .	13 26 24	5 Mar. (64) . . .	3 Tues. . .	202-1033	4097
23 Mar. (83) . . .	2 Mon. . .	19 38 33	23 Mar. (83) . . .	2 Mon. . .	226-7856	4098
24 Mar. (83) . . .	4 Wed. . .	1 50 42	12 Mar. (71) . . .	6 Fri. . .	112-5085	4099
24 Mar. (83) . . .	5 Thur. . .	8 2 51	2 Mar. (61) . . .	4 Wed. . .	326-8633	4100
24 Mar. (83) . . .	6 Fri. . .	14 15 0	20 Mar. (79) . . .	2 Mon. . .	22-9136	4101
23 Mar. (83) . . .	0 Sat. . .	20 27 9	9 Mar. (69) . . .	0 Sat. . .	237-2685	4102
24 Mar. (83) . . .	2 Mon. . .	2 39 18	26 Feb. (57) . . .	4 Wed. . .	112-9914	4103
24 Mar. (83) . . .	3 Tues. . .	8 51 27	17 Mar. (76) . . .	3 Tues. . .	147-6737	4104
24 Mar. (83) . . .	4 Wed. . .	15 3 36	6 Mar. (65) . . .	0 Sat. . .	23-2966	4105
23 Mar. (83) . . .	5 Thur. . .	21 15 45	24 Feb. (55) . . .	5 Thur. . .	237-7514	4106
24 Mar. (83) . . .	0 Sat. . .	3 27 54	14 Mar. (73) . . .	4 Wed. . .	272-4338	4107
24 Mar. (83) . . .	1 Sun. . .	9 40 3	3 Mar. (62) . . .	1 Sun. . .	148-1566	4108
24 Mar. (83) . . .	2 Mon. . .	15 52 12	22 Mar. (81) . . .	0 Sat. . .	182-8390	4109
23 Mar. (83) . . .	3 Tues. . .	22 4 21	10 Mar. (70) . . .	4 Wed. . .	58-5618	4110
24 Mar. (83) . . .	5 Thur. . .	4 16 30	28 Feb. (59) . . .	2 Mon. . .	272-9167	4111
24 Mar. (83) . . .	6 Fri. . .	10 28 39	19 Mar. (78) . . .	1 Sun. . .	307-5991	4112
24 Mar. (83) . . .	0 Sat. . .	16 40 48	8 Mar. (67) . . .	5 Thur. . .	183-3219	4113
23 Mar. (83) . . .	1 Sun. . .	22 52 57	25 Feb. (56) . . .	2 Mon. . .	59-0447	4114
24 Mar. (83) . . .	3 Tues. . .	5 5 6	15 Mar. (74) . . .	1 Sun. . .	93-7270	4115
24 Mar. (83) . . .	4 Wed. . .	11 17 15	5 Mar. (64) . . .	6 Fri. . .	308-0820	4116
24 Mar. (83) . . .	5 Thur. . .	17 29 24	23 Mar. (82) . . .	4 Wed. . .	4-1323	4117
23 Mar. (83) . . .	6 Fri. . .	23 41 33	12 Mar. (72) . . .	2 Mon. . .	218-4872	4118
24 Mar. (83) . . .	1 Sun. . .	5 53 42	1 Mar. (60) . . .	6 Fri. . .	94-2100	4119
24 Mar. (83) . . .	2 Mon. . .	12 5 51	20 Mar. (79) . . .	5 Thur. . .	128-8924	4120

TABLE

CONCURRENT YEAR.								Mean intercalated (adhika) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Meghādī solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4121	942	1077	426	194-95	1019-20	53 Siddhārthin .	55 Durmati .	...
4122	943	1078	427	195-96	*1020-21	54 Randra .	56 Dundubhi .	5 Śrāvāṇa .
4123	944	1079	428	196-97	1021-22	55 Durmati .	57 Rudhirōdgārin .	...
4124	945	1080	429	197-98	1022-23	56 Dundubhi .	58 Raktāksha .	...
4125	946	1081	430	198-99	1023-24	57 Rudhirōdgārin .	59 Krōdhana .	1 Chaitra .
4126	947	1082	431	199-200	*1024-25	58 Raktāksha .	60 Kshaya .	...
4127	948	1083	432	200-01	1025-26	59 Krōdhana .	1 Prabhava .	10 Pāṇṣha .
4128	949	1084	433	201-02	1026-27	60 Kshaya .	2 Vibhava .	...
4129	950	1085	434	202-03	1027-28	1 Prabhava .	3 Śukla .	...
4130	951	1086	435	203-04	*1028-29	2 Vibhava .	4 Pramōda .	6 Bhādrapada .
4131	952	1087	436	204-05	1029-30	3 Śukla .	5 Prajāpati .	...
4132	953	1088	437	205-06	1030-31	4 Pramōda .	6 Āṅgiras .	...
4133	954	1089	438	206-07	1031-32	5 Prajāpati .	7 Śrīmukha .	3 Jyēsthā .
4134	955	1090	439	207-08	*1032-33	6 Āṅgiras .	8 Bhāva .	...
4135	956	1091	440	208-09	1033-34	7 Śrīmukha .	9 Yavan .	11 Māgha .
4136	957	1092	441	209-10	1034-35	8 Bhāva .	10 Dhātṛi .	...
4137	958	1093	442	210-11	1035-36	9 Yavan .	11 Ísvara .	...
4138	959	1094	443	211-12	*1036-37	10 Dhātṛi .	12 Bahudhānya .	8 Kārttika .
4139	960	1095	444	212-13	1037-38	11 Ísvara .	13 Pramāthin .	...
4140	961	1096	445	213-14	1038-39	12 Bahudhānya .	14 Vikrama .	...
4141	962	1097	446	214-15	1039-40	13 Pramāthin .	15 Vṛisha .	4 Āshāḍha .
4142	963	1098	447	215-16	*1040-41	14 Vikrama .	16 Chitrabhānu .	...
4143	964	1099	448	216-17	1041-42	15 Vṛisha .	17 Subhānu .	...
4144	965	1100	449	217-18	1042-43	16 Chitrabhānu .	18 Tārāṇa .	1 Chaitra .
4145	966	1101	450	218-19	1043-44	17 Subhānu .	19 Pārthiva .	...

XC—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	a (here = t, the index of the tithi).	
13	14	17	19	20	23	
		H. M. S.				
24 Mar. (83) . . .	3 Tues. . .	18 18 0	9 Mar. (68) . . .	2 Mon. . .	46131	4121
24 Mar. (84) . . .	5 Thur. . .	0 30 9	27 Feb. (58) . . .	0 Sat. . .	2189701	4122
24 Mar. (83) . . .	6 Fri. . .	6 42 18	17 Mar. (76) . . .	6 Fri. . .	2536525	4123
24 Mar. (83) . . .	0 Sat. . .	12 54 27	6 Mar. (65) . . .	3 Tues. . .	1293753	4124
24 Mar. (83) . . .	1 Sun. . .	19 6 36	23 Feb. (54) . . .	0 Sat. . .	50981	4125
24 Mar. (84) . . .	3 Tues. . .	1 18 45	18 Mar. (73) . . .	6 Fri. . .	897806	4126
24 Mar. (83) . . .	4 Wed. . .	7 30 54	3 Mar. (62) . . .	4 Wed. . .	2541354	4127
24 Mar. (83) . . .	5 Thur. . .	13 43 3	22 Mar. (81) . . .	3 Tues. . .	2888177	4128
24 Mar. (83) . . .	6 Fri. . .	19 55 12	11 Mar. (70) . . .	0 Sat. . .	1645406	4129
24 Mar. (84) . . .	1 Sun. . .	2 7 21	28 Feb. (59) . . .	4 Wed. . .	402635	4130
24 Mar. (83) . . .	2 Mon. . .	8 19 30	18 Mar. (77) . . .	3 Tues. . .	749458	4131
24 Mar. (83) . . .	3 Tues. . .	14 31 39	8 Mar. (67) . . .	1 Sun. . .	2893006	4132
24 Mar. (83) . . .	4 Wed. . .	20 43 48	25 Feb. (56) . . .	5 Thur. . .	1650235	4133
24 Mar. (84) . . .	6 Fri. . .	2 55 57	15 Mar. (75) . . .	4 Wed. . .	1997059	4134
24 Mar. (83) . . .	0 Sat. . .	9 8 6	4 Mar. (63) . . .	1 Sun. . .	754287	4135
24 Mar. (83) . . .	1 Sun. . .	15 20 15	23 Mar. (82) . . .	0 Sat. . .	1101111	4136
24 Mar. (83) . . .	2 Mon. . .	21 32 24	13 Mar. (72) . . .	5 Thur. . .	3244660	4137
24 Mar. (84) . . .	4 Wed. . .	3 44 33	1 Mar. (61) . . .	2 Mon. . .	2001888	4138
24 Mar. (83) . . .	5 Thur. . .	9 56 42	20 Mar. (79) . . .	1 Sun. . .	2348712	4139
24 Mar. (83) . . .	6 Fri. . .	16 8 51	9 Mar. (68) . . .	5 Thur. . .	1105940	4140
24 Mar. (83) . . .	0 Sat. . .	22 21 0	27 Feb. (58) . . .	3 Tues. . .	3249489	4141
24 Mar. (84) . . .	2 Mon. . .	4 33 9	16 Mar. (76) . . .	1 Sun. . .	209992	4142
24 Mar. (83) . . .	3 Tues. . .	10 45 18	6 Mar. (65) . . .	6 Fri. . .	2353541	4143
24 Mar. (83) . . .	4 Wed. . .	16 57 27	23 Feb. (54) . . .	3 Tues. . .	1110793	4144
24 Mar. (83) . . .	5 Thur. . .	23 9 36	14 Mar. (73) . . .	2 Mon. . .	1457593	4145

TABLE

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Penzal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4146	967	1102	451	219-20	*1044-45	18 Tārana .	20 Vyaya .	9 Mārgasīra .
4147	968	1103	452	220-21	1045-46	19 Pārthiva .	21 Sarvajit .	...
4148	969	1104	453	221-22	1046-47	20 Vyaya .	22 Sarvadhārin .	...
4149	970	1105	454	222-23	1047-48	21 Sarvajit .	23 Virōdhin .	6 Bhādrapada .
4150	971	1106	455	223-24	*1048-49	22 Sarvadhārin .	24 Vikṛita .	...
4151	972	1107	456	224-25	1049-50	23 Virōdhin .	25 Khara .	...
4152	973	1108	457	225-26	1050-51	24 Vikṛita .	26 Nandana .	3 Jyēsthā .
4153	974	1109	458	226-27	1051-52	25 Khara .	27 Vijaya .	...
4154	975	1110	459	227-28	*1052-53	26 Nandana .	28 Jaya .	11 Māgha .
4155	976	1111	460	228-29	1053-54	27 Vijaya .	29 Manmatha .	...
4156	977	1112	461	229-30	1054-55	28 Jaya .	30 Durmukha .	...
4157	978	1113	462	230-31	1055-56	29 Manmatha .	31 Hēmalamba .	8 Kārttika .
4158	979	1114	463	231-32	*1056-57	30 Durmukha .	32 Vilamba .	...
4159	980	1115	464	232-33	1057-58	31 Hēmalamba .	33 Vikārin .	...
4160	981	1116	465	233-34	1058-59	32 Vilamba .	34 Śārvarin .	4 Āshāḍha .
4161	982	1117	466	234-35	1059-60	33 Vikārin .	35 Plava .	...
4162	983	1118	467	235-36	*1060-61	34 Śārvarin .	36 Śubhakṛit .	...
4163	984	1119	468	236-37	1061-62	35 Plava .	37 Śōbhana .	1 Chaitra .
4164	985	1120	469	237-38	1062-63	36 Śubhakṛit .	38 Krōdhin .	...
4165	986	1121	470	238-39	1063-64	37 Śōbhana .	39 Viśvāvasu .	9 Mārgasīra .
4166	987	1122	471	239-40	*1064-65	38 Krōdhin .	40 Parābhava .	...
4167	988	1123	472	240-41	1065-66	39 Viśvāvasu .	41 Plavaṅga .	...
4168	989	1124	473	241-42	1066-67	40 Parābhava .	42 Kilaka .	6 Bhādrapada .
4169	990	1125	474	242-43	1067-68	41 Plavaṅga .	43 Saumya .	...
4170	991	1126	475	243-44	*1068-69	42 Kilaka .	44 Sādhārana .	...

XC—*contd.*

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean M̐śha- sankrānti.	Day and month, A.D.	Week-day.	$\alpha$ (here = $\tau$ , the index of the <i>tithi</i> ).	
13	14	17	19	20	23	1
		H. M. S.				
24 Mar. (84) . .	0 Sat. . .	5 21 45	2 Mar. (62) . .	6 Fri. . .	21.4821	4146
24 Mar. (83) . .	1 Sun. . .	11 33 54	21 Mar. (80) . .	5 Thur. . .	56.1645	4147
24 Mar. (83) . .	2 Mon. . .	17 46 3	11 Mar. (70) . .	3 Tues. . .	270.5194	4148
24 Mar. (83) . .	3 Tues. . .	23 58 12	28 Feb. (59) . .	0 Sat. . .	146.2422	4149
24 Mar. (84) . .	5 Thur. . .	6 10 21	18 Mar. (78) . .	6 Fri. . .	180.9246	4150
24 Mar. (83) . .	6 Fri. . .	12 22 30	7 Mar. (66) . .	3 Tues. . .	56.6475	4151
24 Mar. (83) . .	0 Sat. . .	18 34 39	25 Feb. (56) . .	1 Sun. . .	271.0023	4152
25 Mar. (84) . .	2 Mon. . .	0 46 48	16 Mar. (75) . .	0 Sat. . .	305.6846	4153
24 Mar. (84) . .	3 Tues. . .	6 58 57	4 Mar. (64) . .	4 Wed. . .	181.4075	4154
24 Mar. (83) . .	4 Wed. . .	13 11 6	23 Mar. (82) . .	3 Tues. . .	216.0899	4155
24 Mar. (83) . .	5 Thur. . .	19 23 15	12 Mar. (71) . .	0 Sat. . .	91.8127	4156
25 Mar. (84) . .	0 Sat. . .	1 35 24	2 Mar. (61) . .	5 Thur. . .	306.1675	4157
24 Mar. (84) . .	1 Sun. . .	7 47 33	19 Mar. (79) . .	3 Tues. . .	2.2180	4158
24 Mar. (83) . .	2 Mon. . .	13 59 42	9 Mar. (68) . .	1 Sun. . .	216.5728	4159
24 Mar. (83) . .	3 Tues. . .	20 11 51	26 Feb. (57) . .	5 Thur. . .	92.2956	4160
25 Mar. (84) . .	5 Thur. . .	2 24 0	17 Mar. (76) . .	4 Wed. . .	126.9780	4161
24 Mar. (84) . .	6 Fri. . .	8 36 9	5 Mar. (65) . .	1 Sun. . .	2.7009	4162
24 Mar. (83) . .	0 Sat. . .	14 48 18	23 Feb. (54) . .	6 Fri. . .	217.0556	4163
24 Mar. (83) . .	1 Sun. . .	21 0 27	14 Mar. (73) . .	5 Thur. . .	251.7380	4164
25 Mar. (84) . .	3 Tues. . .	3 12 36	3 Mar. (62) . .	2 Mon. . .	127.4609	4165
24 Mar. (84) . .	4 Wed. . .	9 24 45	21 Mar. (81) . .	1 Sun. . .	162.1433	4166
24 Mar. (83) . .	5 Thur. . .	15 36 54	10 Mar. (69) . .	5 Thur. . .	37.8661	4167
24 Mar. (83) . .	6 Fri. . .	21 49 3	28 Feb. (59) . .	3 Tues. . .	252.2210	4168
25 Mar. (84) . .	1 Sun. . .	4 1 12	19 Mar. (78) . .	2 Mon. . .	286.9051	4169
24 Mar. (84) . .	2 Mon. . .	10 13 21	7 Mar. (67) . .	6 Fri. . .	162.6262	4170



TABLE

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mishādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4171	992	1127	476	244-45	1069-70	43 Saumya .	45 Virōdhakṛit .	2 Vaiśākha .
4172	993	1128	477	245-46	1070-71	44 Sādhāraṇa .	46 Paridhāvin .	...
4173	994	1129	478	246-47	1071-72	45 Virōdhakṛit .	47 Pramādin .	11 Māgha .
4174	995	1130	479	247-48	*1072-73	46 Paridhāvin .	48 Ānanda .	...
4175	996	1131	480	248-49	1073-74	47 Pramādin .	49 Rākshasa .	...
4176	997	1132	481	249-50	1074-75	48 Ānanda .	50 Anala† .	7 Āśvina .
4177	998	1133	482	250-51	1075-76	49 Rākshasa .	52 Kālayukta .	...
4178	999	1134	483	251-52	*1076-77	50 Anala .	53 Siddhārthin .	...
4179	1000	1135	484	252-53	1077-78	51 Piṅgala .	54 Raudra .	4 Āshādha .
4180	1001	1136	485	253-54	1078-79	52 Kālayukta .	55 Durmati .	...
4181	1002	1137	486	254-55	1079-80	53 Siddhārthin .	56 Dundubhi .	12 Phālguna .
4182	1003	1138	487	255-56	*1080-81	54 Raudra .	57 Rudhirōdgārin .	...
4183	1004	1139	488	256-57	1081-82	55 Durmati .	58 Raktāksha .	...
4184	1005	1140	489	257-58	1082-83	56 Dundubhi .	59 Krōdhana .	9 Mārgaśīra .
4185	1006	1141	490	258-59	1083-84	57 Rudhirōdgārin .	60 Kshaya .	...
4186	1007	1142	491	259-60	*1084-85	58 Raktāksha .	1 Prabhava .	...
4187	1008	1143	492	260-61	1085-86	59 Krōdhana .	2 Vibhava .	6 Bhādrapada .
4188	1009	1144	493	261-62	1086-87	60 Kshaya .	3 Śukla .	...
4189	1010	1145	494	262-63	1087-88	1 Prabhava .	4 Pramōda .	...
4190	1011	1146	495	263-64	*1088-89	2 Vibhava .	5 Prajāpati .	2 Vaiśākha .
4191	1012	1147	496	264-65	1089-90	3 Śukla .	6 Āngiras .	...
4192	1013	1148	497	265-66	1090-91	4 Pramōda .	7 Śrīmukha .	11 Māgha .
4193	1014	1149	498	266-67	1091-92	5 Prajāpati .	8 Bhāva .	...
4194	1015	1150	499	267-68	*1092-93	6 Āngiras .	9 Yuvan .	...
4195	1016	1151	500	268-69	1093-94	7 Śrīmukha .	10 Dhātṛi .	7 Āśvina .

† 51 Piṅgala was suppressed in the north, according to both "true" and mean systems, in *Brahma-Siddhānta* reckoning.

XC—*contd.*

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	<i>a</i> (here $\rightarrow t$ , the index of the <i>tithi</i> ).	
13	14	17	19	20	23	
		H. M. S.				
24 Mar. (83) . . .	3 Tues. . .	16 25 30	24 Feb. (55) . . .	3 Tues. . .	38-3490	4171
24 Mar. (83) . . .	4 Wed. . .	22 37 39	15 Mar. (74) . . .	2 Mon. . .	73-0314	4172
25 Mar. (84) . . .	6 Fri. . .	4 49 48	5 Mar. (64) . . .	0 Sat. . .	287-3863	4173
24 Mar. (84) . . .	0 Sat. . .	11 1 57	23 Mar. (83) . . .	6 Fri. . .	322-0086	4174
24 Mar. (83) . . .	1 Sun. . .	17 14 6	12 Mar. (71) . . .	3 Tues. . .	197-7915	4175
24 Mar. (83) . . .	2 Mon. . .	23 26 15	1 Mar. (60) . . .	0 Sat. . .	73-5143	4176
25 Mar. (84) . . .	4 Wed. . .	5 38 24	20 Mar. (79) . . .	6 Fri. . .	108-1907	4177
24 Mar. (84) . . .	5 Thur. . .	11 50 33	9 Mar. (69) . . .	4 Wed. . .	322-5515	4178
24 Mar. (83) . . .	6 Fri. . .	18 2 42	26 Feb. (57) . . .	1 Sun. . .	198-2744	4179
25 Mar. (84) . . .	1 Sun. . .	0 14 51	17 Mar. (76) . . .	0 Sat. . .	232-9568	4180
25 Mar. (84) . . .	2 Mon. . .	6 27 0	6 Mar. (65) . . .	4 Wed. . .	108-6796	4181
24 Mar. (84) . . .	3 Tues. . .	12 39 9	24 Mar. (84) . . .	3 Tues. . .	143-3620	4182
24 Mar. (83) . . .	4 Wed. . .	18 51 18	13 Mar. (72) . . .	0 Sat. . .	19-0848	4183
25 Mar. (84) . . .	6 Fri. . .	1 3 27	3 Mar. (62) . . .	5 Thur. . .	233-4397	4184
25 Mar. (84) . . .	0 Sat. . .	7 15 36	22 Mar. (81) . . .	4 Wed. . .	268-1220	4185
24 Mar. (84) . . .	1 Sun. . .	13 27 45	10 Mar. (70) . . .	1 Sun. . .	143-8449	4186
24 Mar. (83) . . .	2 Mon. . .	19 39 54	27 Feb. (58) . . .	5 Thur. . .	19-5678	4187
25 Mar. (84) . . .	4 Wed. . .	1 52 3	18 Mar. (77) . . .	4 Wed. . .	54-2501	4188
25 Mar. (84) . . .	5 Thur. . .	8 4 12	8 Mar. (67) . . .	2 Mon. . .	268-6050	4189
24 Mar. (84) . . .	6 Fri. . .	14 16 21	25 Feb. (56) . . .	6 Fri. . .	144-3278	4190
24 Mar. (83) . . .	0 Sat. . .	20 28 30	15 Mar. (74) . . .	5 Thur. . .	179-0102	4191
25 Mar. (84) . . .	2 Mon. . .	2 40 39	4 Mar. (63) . . .	2 Mon. . .	54-7330	4192
25 Mar. (84) . . .	3 Tues. . .	8 52 48	23 Mar. (82) . . .	1 Sun. . .	89-4154	4193
24 Mar. (84) . . .	4 Wed. . .	15 4 57	12 Mar. (72) . . .	6 Fri. . .	303-7703	4194
24 Mar. (83) . . .	5 Thur. . .	21 17 6	1 Mar. (60) . . .	3 Tues. . .	179-4930	4195

TABLE

CONCURRENT YEAR.								Mean intercalated (adhika) lunar month.
Kali.	Saka.	Chaitradī Vikrama.	Meshādī solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4196	1017	1152	501	269-70	1094-95	8 Bhāva . .	11 Īśvara . .	...
4197	1018	1153	502	270-71	1095-96	9 Yavan . .	12 Bahudhānya . .	...
4198	1019	1154	503	271-72	*1096-97	10 Dhātṛi . .	13 Pramāthin . .	4 Āshādha . .
4199	1020	1155	504	272-73	1097-98	11 Īśvara . .	14 Vikrama . .	...
4200	1021	1156	505	273-74	1098-99	12 Bahudhānya . .	15 Vṛisha . .	12 Phālguna . .
4201	1022	1157	506	274-75	1099-1100	13 Pramāthin . .	16 Chitrabhānu . .	...
4202	1023	1158	507	275-76	*1100-01	14 Vikrama . .	17 Subhānu . .	...
4203	1024	1159	508	276-77	1101-02	15 Vṛisha . .	18 Tāraṇa . .	9 Mārgaśīra . .
4204	1025	1160	509	277-78	1102-03	16 Chitrabhānu . .	19 Pārthiva . .	...
4205	1026	1161	510	278-79	1103-04	17 Subhānu . .	20 Vyaya . .	...
4206	1027	1162	511	279-80	*1104-05	18 Tāraṇa . .	21 Sarvajit . .	5 Śrāvaṇa . .
4207	1028	1163	512	280-81	1105-06	19 Pārthiva . .	22 Sarvadhārin . .	...
4208	1029	1164	513	281-82	1106-07	20 Vyaya . .	23 Virōdhin . .	...
4209	1030	1165	514	282-83	1107-08	21 Sarvajit . .	24 Vikṛita . .	2 Vaiśākha . .
4210	1031	1166	515	283-84	*1108-09	22 Sarvadhārin . .	25 Khara . .	...
4211	1032	1167	516	284-85	1109-10	23 Virōdhin . .	26 Nandana . .	10 Pausa . .
4212	1033	1168	517	285-86	1110-11	24 Vikṛita . .	27 Vijaya . .	...
4213	1034	1169	518	286-87	1111-12	25 Khara . .	28 Jaya . .	...
4214	1035	1170	519	287-88	*1112-13	26 Nandana . .	29 Maṇmatha . .	7 Āśvina . .
4215	1036	1171	520	288-89	1113-14	27 Vijaya . .	30 Durmukha . .	...
4216	1037	1172	521	289-90	1114-15	28 Jaya . .	31 Hēmalamba . .	...
4217	1038	1173	522	290-91	1115-16	29 Maṇmatha . .	32 Vilamba . .	3 Jyēṣṭha . .
4218	1039	1174	523	291-92	*1116-17	30 Durmukha . .	33 Vikārin . .	...
4219	1040	1175	524	292-93	1117-18	31 Hēmalamba . .	34 Śārvarin . .	12 Phālguna . .
4220	1041	1176	525	293-94	1118-19	32 Vilamba . .	35 Plava . .	...

XC—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	<i>a</i> (here = <i>t</i> , the index of the <i>tithi</i> ).	
13	14	17	19	20	23	
		H. M. S.				1
25 Mar. (84) . . .	0 Sat. . .	3 29 15	20 Mar. (79) . . .	2 Mon. . .	214·1755	4196
25 Mar. (84) . . .	1 Sun. . .	9 41 24	9 Mar. (68) . . .	6 Fri. . .	89·8983	4197
24 Mar. (84) . . .	2 Mon. . .	15 53 33	27 Feb. (58) . . .	4 Wed. . .	304·2531	4198
24 Mar. (83) . . .	3 Tues. . .	22 5 42	16 Mar. (75) . . .	2 Mon. . .	0·3035	4199
25 Mar. (84) . . .	5 Thur. . .	4 17 51	6 Mar. (65) . . .	0 Sat. . .	214·6584	4200
25 Mar. (84) . . .	6 Fri. . .	10 30 0	25 Mar. (84) . . .	6 Fri. . .	249·3408	4201
24 Mar. (84) . . .	0 Sat. . .	16 42 9	13 Mar. (73) . . .	3 Tues. . .	125·0637	4202
24 Mar. (83) . . .	1 Sun. . .	22 54 18	2 Mar. (61) . . .	0 Sat. . .	0·7865	4203
25 Mar. (84) . . .	3 Tues. . .	5 6 27	21 Mar. (80) . . .	6 Fri. . .	35·4689	4204
25 Mar. (84) . . .	4 Wed. . .	11 18 36	11 Mar. (70) . . .	4 Wed. . .	249·8237	4205
24 Mar. (84) . . .	5 Thur. . .	17 30 45	28 Feb. (59) . . .	1 Sun. . .	125·5466	4206
24 Mar. (83) . . .	6 Fri. . .	23 42 54	18 Mar. (77) . . .	0 Sat. . .	160·2289	4207
25 Mar. (84) . . .	1 Sun. . .	5 55 3	7 Mar. (66) . . .	4 Wed. . .	35·9318	4208
25 Mar. (84) . . .	2 Mon. . .	12 7 12	25 Feb. (56) . . .	2 Mon. . .	250·3066	4209
24 Mar. (84) . . .	3 Tues. . .	18 19 21	15 Mar. (75) . . .	1 Sun. . .	284·9889	4210
25 Mar. (84) . . .	5 Thur. . .	0 31 30	4 Mar. (63) . . .	5 Thur. . .	160·7118	4211
25 Mar. (84) . . .	6 Fri. . .	6 43 39	23 Mar. (82) . . .	4 Wed. . .	195·3942	4212
25 Mar. (84) . . .	0 Sat. . .	12 55 48	12 Mar. (71) . . .	1 Sun. . .	71·1171	4213
24 Mar. (84) . . .	1 Sun. . .	19 7 57	1 Mar. (61) . . .	6 Fri. . .	285·4718	4214
25 Mar. (84) . . .	3 Tues. . .	1 20 6	20 Mar. (79) . . .	5 Thur. . .	320·1543	4215
25 Mar. (84) . . .	4 Wed. . .	7 32 15	9 Mar. (68) . . .	2 Mon. . .	195·8771	4216
25 Mar. (84) . . .	5 Thur. . .	13 44 24	26 Feb. (57) . . .	6 Fri. . .	71·5999	4217
24 Mar. (84) . . .	6 Fri. . .	19 56 33	16 Mar. (76) . . .	5 Thur. . .	106·2823	4218
25 Mar. (84) . . .	1 Sun. . .	2 8 42	6 Mar. (65) . . .	3 Tues. . .	320·6372	4219
25 Mar. (84) . . .	2 Mon. . .	8 20 51	24 Mar. (83) . . .	1 Sun. . .	16·6876	4220

TABLE

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēghādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4221	1042	1177	526	294-95	1119-20	33 Vikārin .	36 Śubhakṛit .	...
4222	1043	1178	527	295-96	*1120-21	34 Śārvarin .	37 Śōbhana .	8 Kārttika .
4223	1044	1179	528	296-97	1121-22	35 Plava .	38 Krōdhin .	...
4224	1045	1180	529	297-98	1122-23	36 Śubhakṛit .	39 Viśvāvasan .	...
4225	1046	1181	530	298-99	1123-24	37 Śōbhana .	40 Parābhava .	5 Srāvaṇa .
4226	1047	1182	531	299-300	*1124-25	38 Krōdhin .	41 Plavaṅga .	...
4227	1048	1183	532	300-01	1125-26	39 Viśvāvasan .	42 Kīlaka .	...
4228	1049	1184	533	301-02	1126-27	40 Parābhava .	43 Saumya .	2 Vaiśākha .
4229	1050	1185	534	302-03	1127-28	41 Plavaṅga .	44 Sādhārana .	...
4230	1051	1186	535	303-04	*1128-29	42 Kīlaka .	45 Virōdhakṛit .	10 Pansha .
4231	1052	1187	536	304-05	1129-30	43 Saumya .	46 Paridhāvin .	...
4232	1053	1188	537	305-06	1130-31	44 Sādhārana .	47 Pramādin .	...
4233	1054	1189	538	306-07	1131-32	45 Virōdhakṛit .	48 Ānanda .	7 Āśvina .
4234	1055	1190	539	307-08	*1132-33	46 Paridhāvin .	49 Rākshasa .	...
4235	1056	1191	540	308-09	1133-34	47 Pramādin .	50 Anala .	...
4236	1057	1192	541	309-10	1134-35	48 Ānanda .	51 Piṅgala .	3 Jyēṣṭha .
4237	1058	1193	542	310-11	1135-36	49 Rākshasa .	52 Kālayukta .	...
4238	1059	1194	543	311-12	*1136-37	50 Anala .	53 Siddhārthin .	12 Phālguna
4239	1060	1195	544	312-13	1137-38	51 Piṅgala .	54 Raudra .	...
4240	1061	1196	545	313-14	1138-39	52 Kālayukta .	55 Durmati .	...
4241	1062	1197	546	314-15	1139-40	53 Siddhārthin .	56 Dundubhi .	8 Kārttika .
4242	1063	1198	547	315-16	*1140-41	54 Raudra .	57 Rudhirōdgārin .	...
4243	1064	1199	548	316-17	1141-42	55 Durmati .	58 Raktāksha .	...
4244	1065	1200	549	317-18	1142-43	56 Dundubhi .	59 Krōdhana .	5 Srāvaṇa .
4245	1066	1201	550	318-19	1143-44	57 Rudhirōdgārin .	60 Kshaya .	...

XC—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-sankrānti.	Day and month, A.D.	Week-day.	$a$ (here = $t$ , the index of the <i>tithi</i> ).	
13	14	17	19	20	23	1
		H. M. S.				
25 Mar. (84) . . .	3 Tues. . .	14 33 0	14 Mar. (73) . . .	6 Fri. . .	231·0424	4221
24 Mar. (84) . . .	4 Wed. . .	20 45 9	2 Mar. (62) . . .	3 Tues. . .	106·7652	4222
25 Mar. (84) . . .	6 Fri. . .	2 57 18	21 Mar. (80) . . .	2 Mon. . .	141·4477	4223
25 Mar. (84) . . .	0 Sat. . .	9 9 27	10 Mar. (69) . . .	6 Fri. . .	17·1704	4224
25 Mar. (84) . . .	1 Sun. . .	15 21 36	28 Feb. (59) . . .	4 Wed. . .	231·5253	4225
24 Mar. (84) . . .	2 Mon. . .	21 33 45	18 Mar. (78) . . .	3 Tues. . .	266·2077	4226
25 Mar. (84) . . .	4 Wed. . .	3 45 54	7 Mar. (66) . . .	0 Sat. . .	141·9306	4227
25 Mar. (84) . . .	5 Thurs. . .	9 58 3	24 Feb. (55) . . .	4 Wed. . .	17·6533	4228
25 Mar. (84) . . .	6 Fri. . .	16 10 12	15 Mar. (74) . . .	3 Tues. . .	52·3357	4229
24 Mar. (84) . . .	0 Sat. . .	22 22 21	4 Mar. (64) . . .	1 Sun. . .	266·6906	4230
25 Mar. (84) . . .	2 Mon. . .	4 34 30	23 Mar. (82) . . .	0 Sat. . .	301·3729	4231
25 Mar. (84) . . .	3 Tues. . .	10 46 30	12 Mar. (71) . . .	4 Wed. . .	177·0058	4232
25 Mar. (84) . . .	4 Wed. . .	16 58 48	1 Mar. (60) . . .	1 Sun. . .	52·8186	4233
24 Mar. (84) . . .	5 Thurs. . .	23 10 57	19 Mar. (79) . . .	0 Sat. . .	87·5011	4234
25 Mar. (84) . . .	0 Sat. . .	5 23 6	9 Mar. (68) . . .	5 Thurs. . .	301·8558	4235
25 Mar. (84) . . .	1 Sun. . .	11 35 15	26 Feb. (57) . . .	2 Mon. . .	177·5787	4236
25 Mar. (84) . . .	2 Mon. . .	17 47 24	17 Mar. (76) . . .	1 Sun. . .	212·2611	4237
24 Mar. (84) . . .	3 Tues. . .	23 59 33	5 Mar. (65) . . .	5 Thurs. . .	87·9840	4238
25 Mar. (84) . . .	5 Thurs. . .	6 11 42	24 Mar. (83) . . .	4 Wed. . .	122·6663	4239
25 Mar. (84) . . .	6 Fri. . .	12 23 51	13 Mar. (72) . . .	1 Sun. . .	9998·8892 §	4240
25 Mar. (84) . . .	0 Sat. . .	18 36 0	3 Mar. (62) . . .	6 Fri. . .	212·7440	4241
25 Mar. (85) . . .	2 Mon. . .	0 48 9	21 Mar. (81) . . .	5 Thurs. . .	217·4264	4242
25 Mar. (84) . . .	3 Tues. . .	7 0 18	10 Mar. (69) . . .	2 Mon. . .	123·0492	4243
25 Mar. (84) . . .	4 Wed. . .	13 12 27	27 Feb. (58) . . .	6 Fri. . .	9998·8721 §	4244
25 Mar. (84) . . .	5 Thurs. . .	19 24 36	18 Mar. (77) . . .	5 Thurs. . .	33·5545	4245

§ Chaitra sukla 1 was suppressed.

TABLE

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4246	1067	1202	551	319-20	*1144-45	58 Raktāksha .	1 Prabhava .	...
4247	1068	1203	552	320-21	1145-46	59 Krōdhana .	2 Vibhava .	1 Chaitra .
4248	1069	1204	553	321-22	1146-47	60 Kshaya .	3 Śukla .	...
4249	1070	1205	554	322-23	1147-48	1 Prabhava .	4 Pramōda .	10 Pausa .
4250	1071	1206	555	323-24	*1148-49	2 Vibhava .	5 Prajāpati .	...
4251	1072	1207	556	324-25	1149-50	3 Śukla .	6 Āngiras .	...
4252	1073	1208	557	325-26	1150-51	4 Pramōda .	7 Śrīmukha .	6 Bhādrapada .
4253	1074	1209	558	326-27	1151-52	5 Prajāpati .	8 Bhāva .	...
4254	1075	1210	559	327-28	*1152-53	6 Āngiras .	9 Yuvan .	...
4255	1076	1211	560	328-29	1153-54	7 Śrīmukha .	10 Dhātṛi .	3 Jyēṣṭha .
4256	1077	1212	561	329-30	1154-55	8 Bhāva .	11 Isvara .	...
4257	1078	1213	562	330-31	1155-56	9 Yuvan .	12 Bahudhānya .	11 Māgha .
4258	1079	1214	563	331-32	*1156-57	10 Dhātṛi .	13 Pramāthin .	...
4259	1080	1215	564	332-33	1157-58	11 Isvara .	14 Vikrama .	...
4260	1081	1216	565	333-34	1158-59	12 Bahudhānya .	15 Vṛisha .	8 Kārttika .
4261	1082	1217	566	334-35	1159-60	13 Pramāthin .	16 Chitrabhānu† .	...
4262	1083	1218	567	335-36	*1160-61	14 Vikrama .	18 Tāraṇa .	...
4263	1084	1219	568	336-37	1161-62	15 Vṛisha .	19 Pārthiva .	5 Śrāvaṇa .
4264	1085	1220	569	337-38	1162-63	16 Chitrabhānu .	20 Vyaya .	...
4265	1086	1221	570	338-39	1163-64	17 Subhānu .	21 Sarvajit .	...
4266	1087	1222	571	339-40	*1164-65	18 Tāraṇa .	22 Sarvadhārin .	1 Chaitra .
4267	1088	1223	572	340-41	1165-66	19 Pārthiva .	23 Virōdhin .	...
4268	1089	1224	573	341-42	1166-67	20 Vyaya .	24 Vikṛita .	10 Pausa .
4269	1090	1225	574	342-43	1167-68	21 Sarvajit .	25 Kbara .	...
4270	1091	1226	575	343-44	*1168-69	22 Sarvadhārin .	26 Nandana .	...

† 17 Subhānu was suppressed in the north by the *Brahma-Siddhānta*, both in true and mean reckoning.

XC—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITHA ÉUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-sarinkrānti.	Day and month, A.D.	Week-day.	$\alpha$ (here = $t$ , the index of the $tikh$ ).	
13	14	17	19	20	23	1
		H. M. S.				
25 Mar. (85) . . .	0 Sat. . .	1 36 45	7 Mar. (67) . . .	3 Tues. . .	247·9093	4246
25 Mar. (84) . . .	1 Sun. . .	7 48 54	24 Feb. (55) . . .	0 Sat. . .	123·6321	4247
25 Mar. (84) . . .	2 Mon. . .	14 1 3	15 Mar. (74) . . .	6 Fri. . .	158·3145	4248
25 Mar. (84) . . .	3 Tues. . .	20 13 12	4 Mar. (63) . . .	3 Tues. . .	34·0373	4249
25 Mar. (85) . . .	5 Thurs. . .	2 25 21	22 Mar. (82) . . .	2 Mon. . .	68·7197	4250
25 Mar. (84) . . .	6 Fri. . .	8 37 30	12 Mar. (71) . . .	0 Sat. . .	283·0746	4251
25 Mar. (84) . . .	0 Sat. . .	14 49 39	1 Mar. (60) . . .	4 Wed. . .	158·7974	4252
25 Mar. (84) . . .	1 Sun. . .	21 1 48	20 Mar. (79) . . .	3 Tues. . .	193·4798	4253
25 Mar. (85) . . .	3 Tues. . .	3 13 57	8 Mar. (68) . . .	0 Sat. . .	69·2026	4254
25 Mar. (84) . . .	4 Wed. . .	9 26 6	26 Feb. (57) . . .	5 Thur. . .	283·5575	4255
25 Mar. (84) . . .	5 Thur. . .	15 38 15	17 Mar. (76) . . .	4 Wed. . .	318·2398	4256
25 Mar. (84) . . .	6 Fri. . .	21 50 24	6 Mar. (65) . . .	1 Sun. . .	193·9627	4257
25 Mar. (85) . . .	1 Sun. . .	4 2 38	24 Mar. (84) . . .	0 Sat. . .	228·6451	4258
25 Mar. (84) . . .	2 Mon. . .	10 14 42	13 Mar. (72) . . .	4 Wed. . .	104·3680	4259
25 Mar. (84) . . .	3 Tues. . .	16 26 51	3 Mar. (62) . . .	2 Mon. . .	318·7227	4260
25 Mar. (84) . . .	4 Wed. . .	22 39 0	21 Mar. (80) . . .	0 Sat. . .	14·7731	4261
25 Mar. (85) . . .	6 Fri. . .	4 51 9	10 Mar. (70) . . .	5 Thur. . .	229·1280	4262
25 Mar. (84) . . .	0 Sat. . .	11 3 18	27 Feb. (58) . . .	2 Mon. . .	104·8508	4263
25 Mar. (84) . . .	1 Sun. . .	17 15 27	18 Mar. (77) . . .	1 Sun. . .	139·5332	4264
25 Mar. (84) . . .	2 Mon. . .	23 27 36	7 Mar. (66) . . .	5 Thur. . .	15·2561	4265
25 Mar. (85) . . .	4 Wed. . .	5 39 45	25 Feb. (56) . . .	3 Tues. . .	229·6109	4266
25 Mar. (84) . . .	5 Thur. . .	11 51 54	15 Mar. (74) . . .	2 Mon. . .	264·2932	4267
25 Mar. (84) . . .	6 Fri. . .	18 4 3	4 Mar. (63) . . .	6 Fri. . .	140·0161	4268
26 Mar. (85) . . .	1 Sun. . .	0 16 12	23 Mar. (82) . . .	5 Tues. . .	174·6985	4269
25 Mar. (85) . . .	2 Mon. . .	6 28 21	11 Mar. (71) . . .	2 Mon. . .	50·4213	4270



TABLE

CONCURRENT YEAR.								Mean intercalated (adhika) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4271	1092	1227	576	344-45	1169-70	23 Virōdhin .	27 Vijaya .	6 Bhādrapada .
4272	1093	1228	577	345-46	1170-71	24 Vikṛita .	28 Jaya .	...
4273	1094	1229	578	346-47	1171-72	25 Khara .	29 Manmatha .	...
4274	1095	1230	579	347-48	*1172-73	26 Nandana .	30 Darmukha .	3 Jyēshtha .
4275	1096	1231	580	348-49	1173-74	27 Vijaya .	31 Hēmalamba .	...
4276	1097	1232	581	349-50	1174-75	28 Jaya .	32 Vilamba .	11 Māgha .
4277	1098	1233	582	350-51	1175-76	29 Manmatha .	33 Vikārin .	...
4278	1099	1234	583	351-52	*1176-77	30 Darmukha .	34 Śārvarin .	...
4279	1100	1235	584	352-53	1177-78	31 Hēmalamba .	35 Plava .	8 Kārttika .
4280	1101	1236	585	353-54	1178-79	32 Vilamba .	36 Śubhakṛit .	...
4281	1102	1237	586	354-55	1179-80	33 Vikārin .	37 Śōbhana .	...
4282	1103	1238	587	355-56	*1180-81	34 Śārvarin .	38 Krōdhin .	4 Āshādhā .
4283	1104	1239	588	356-57	1181-82	35 Plava .	39 Viśvāvasu .	...
4284	1105	1240	589	357-58	1182-83	36 Śubhakṛit .	40 Parābhava .	...
4285	1106	1241	590	358-59	1183-84	37 Śōbhana .	41 Plavaṅga .	1 Chaitra .
4286	1107	1242	591	359-60	*1184-85	38 Krōdhin .	42 Kilaka .	...
4287	1108	1243	592	360-61	1185-86	39 Viśvāvasu .	43 Saumya .	9 Mārgaśīra .
4288	1109	1244	593	361-62	1186-87	40 Parābhava .	44 Sādhāraṇa .	...
4289	1110	1245	594	362-63	1187-88	41 Plavaṅga .	45 Virōdhakṛit .	...
4290	1111	1246	595	363-64	*1188-89	42 Kilaka .	46 Paridhāvin .	6 Bhādrapada .
4291	1112	1247	596	364-65	1189-90	43 Saumya .	47 Pramādin .	...
4292	1113	1248	597	365-66	1190-91	44 Sādhāraṇa .	48 Ānanda .	...
4293	1114	1249	598	366-67	1191-92	45 Virōdhakṛit .	49 Rākhaṇa .	2 Vaiśākha .
4294	1115	1250	599	367-68	*1192-93	46 Paridhāvin .	50 Anala .	...
4295	1116	1251	600	368-69	1193-94	47 Pramādin .	51 Piṅgalā .	11 Māgha .

XC—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	a (here = t, the index of the ti/Ai).	
13	14	17	19	20	23	
		H. M. S.				1
25 Mar. (84) . . .	3 Tues. . .	12 40 30	1 Mar. (80) . . .	0 Sat. . .	264-7762	4271
25 Mar. (84) . . .	4 Wed. . .	18 52 39	20 Mar. (79) . . .	6 Fri. . .	299-4586	4272
26 Mar. (85) . . .	6 Fri. . .	1 4 48	9 Mar. (68) . . .	3 Tues. . .	175-1815	4273
25 Mar. (85) . . .	0 Sat. . .	7 16 57	28 Feb. (57) . . .	0 Sat. . .	50-9042	4274
25 Mar. (84) . . .	1 Sun. . .	13 29 6	16 Mar. (75) . . .	6 Fri. . .	85-5866	4275
25 Mar. (84) . . .	2 Mon. . .	19 41 15	6 Mar. (65) . . .	4 Wed. . .	299-9415	4276
26 Mar. (85) . . .	4 Wed. . .	1 53 24	24 Mar. (83) . . .	2 Mon. . .	9995-9918 §	4277
25 Mar. (85) . . .	5 Thur. . .	8 5 33	13 Mar. (73) . . .	0 Sat. . .	210-3467	4278
25 Mar. (84) . . .	6 Fri. . .	14 17 42	2 Mar. (61) . . .	4 Wed. . .	86-0695	4279
25 Mar. (84) . . .	0 Sat. . .	20 29 51	21 Mar. (80) . . .	3 Tues. . .	120-7519	4280
26 Mar. (85) . . .	2 Mon. . .	2 42 0	10 Mar. (69) . . .	0 Sat. . .	9996-4747 §	4281
25 Mar. (85) . . .	3 Tues. . .	8 54 9	28 Feb. (59) . . .	5 Thur. . .	210-8296	4282
25 Mar. (84) . . .	4 Wed. . .	15 6 18	18 Mar. (77) . . .	4 Wed. . .	245-5120	4283
25 Mar. (84) . . .	5 Thur. . .	21 18 27	7 Mar. (66) . . .	1 Sun. . .	121-2349	4284
26 Mar. (85) . . .	0 Sat. . .	3 30 36	24 Feb. (55) . . .	5 Thur. . .	9996-9576 §	4285
25 Mar. (85) . . .	1 Sun. . .	9 42 45	14 Mar. (74) . . .	4 Wed. . .	31-0400	4286
25 Mar. (84) . . .	2 Mon. . .	15 54 54	4 Mar. (68) . . .	2 Mon. . .	245-9949	4287
25 Mar. (84) . . .	3 Tues. . .	22 7 3	23 Mar. (82) . . .	1 Sun. . .	280-6772	4288
26 Mar. (85) . . .	5 Thur. . .	4 19 12	12 Mar. (71) . . .	5 Thur. . .	156-4061	4289
25 Mar. (85) . . .	6 Fri. . .	10 31 21	29 Feb. (60) . . .	2 Mon. . .	32-1230	4290
25 Mar. (84) . . .	0 Sat. . .	16 43 30	19 Mar. (78) . . .	1 Sun. . .	66-8054	4291
25 Mar. (84) . . .	1 Sun. . .	22 55 39	9 Mar. (68) . . .	6 Fri. . .	281-1602	4292
26 Mar. (85) . . .	3 Tues. . .	5 7 48	28 Feb. (57) . . .	3 Tues. . .	156-8830	4293
25 Mar. (85) . . .	4 Wed. . .	11 19 57	16 Mar. (70) . . .	2 Mon. . .	191-5654	4294
25 Mar. (84) . . .	5 Thur. . .	17 32 6	5 Mar. (64) . . .	6 Fri. . .	67-2882	4295

§ Chaitra śukla 1 was suppressed.

TABLE

CONCURRENT YEAR.								Mean intercalated (adhika) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4296	1117	1252	601	369-70	1194-95	48 Ānanda .	52 Kālayukta .	...
4297	1118	1253	602	370-71	1195-96	49 Rākshasa .	53 Siddhāsthin .	...
4298	1119	1254	603	371-72	*1196-97	50 Anala .	54 Raudra .	8 Kārttika † .
4299	1120	1255	604	372-73	1197-98	51 Piṅgala .	55 Durmati .	...
4300	1121	1256	605	373-74	1198-99	52 Kālayukta .	56 Dundubhi .	...
4301	1122	1257	606	374-75	1199-1200	53 Siddhārthin .	57 Rudhirōdgārin .	4 Āshāḍha .
4302	1123	1258	607	375-76	*1200-01	54 Raudra .	58 Raktāksha .	...
4303	1124	1259	608	376-77	1201-02	55 Durmati .	59 Krōdhana .	...
4304	1125	1260	609	377-78	1202-03	56 Dundubhi .	60 Kshaya .	1 Chaitra .
4305	1126	1261	610	378-79	1203-04	57 Rudhirōdgārin .	1 Prabhava .	...
4306	1127	1262	611	379-80	*1204-05	58 Raktāksha .	2 Vibhava .	9 Mārgaśīra .
4307	1128	1263	612	380-81	1205-06	59 Krōdhana .	3 Śukla .	...
4308	1129	1264	613	381-82	1206-07	60 Kshaya .	4 Pramōda .	...
4309	1130	1265	614	382-83	1207-08	1 Prabhava .	5 Prajāpati .	6 Bhādrapada .
4310	1131	1266	615	383-84	*1208-09	2 Vibhava .	6 Aṅgīras .	...
4311	1132	1267	616	384-85	1209-10	3 Śukla .	7 Śrīmukha .	...
4312	1133	1268	617	385-86	1210-11	4 Pramōda .	8 Bhāva .	2 Vaiśākha .
4313	1134	1269	618	386-87	1211-12	5 Prajāpati .	9 Yuvan .	...
4314	1135	1270	619	387-88	*1212-13	6 Aṅgīras .	10 Dhātri .	11 Māgha .
4315	1136	1271	620	388-89	1213-14	7 Śrīmukha .	11 Śvara .	...
4316	1137	1272	621	389-90	1214-15	8 Bhāva .	12 Bahudhānya .	...
4317	1138	1273	622	390-91	1215-16	9 Yuvan .	13 Pramāsthin .	7 Āśvina .
4318	1139	1274	623	391-92	*1216-17	10 Dhātri .	14 Vikrama .	...
4319	1140	1275	624	392-93	1217-18	11 Śvara .	15 Vṛisha .	...
4320	1141	1276	625	393-94	1218-19	12 Bahudhānya .	16 Chitrabhānu .	4 Āshāḍha .

† See "Remarks," p. 215 above.

XC—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēṣha-saṁkrānti.	Day and month, A.D.	Week-day.	$\alpha$ (here $\sim t$ , the index of the <i>tithi</i> ).	
18	14	17	19	20	23	
		H. M. S.				
25 Mar. (84) . . .	6 Fri. . .	23 44 15	24 Mar. (83) . . .	5 Thur. . .	101.9706	4296
26 Mar. (85) . . .	1 Sun. . .	5 56 24	14 Mar. (73) . . .	3 Tues. . .	316.3255	4297
25 Mar. (85) . . .	2 Mon. . .	12 8 33	2 Mar. (62) . . .	0 Sat. . .	192.0182	4298
25 Mar. (84) . . .	3 Tues. . .	18 20 42	21 Mar. (80) . . .	6 Fri. . .	226.7307	4299
26 Mar. (85) . . .	5 Thur. . .	0 32 51	10 Mar. (69) . . .	3 Tues. . .	102.4535	4300
26 Mar. (85) . . .	6 Fri. . .	6 45 0	28 Feb. (59) . . .	1 Sun. . .	316.8083	4301
25 Mar. (85) . . .	0 Sat. . .	12 57 9	17 Mar. (77) . . .	6 Fri. . .	12.8587	4302
25 Mar. (84) . . .	1 Sun. . .	19 9 18	7 Mar. (66) . . .	4 Wed. . .	227.2136	4303
26 Mar. (85) . . .	3 Tues. . .	1 21 27	24 Feb. (55) . . .	1 Sun. . .	102.9363	4304
26 Mar. (85) . . .	4 Wed. . .	7 33 36	15 Mar. (74) . . .	0 Sat. . .	137.6188	4305
25 Mar. (85) . . .	5 Thur. . .	13 45 45	3 Mar. (63) . . .	4 Wed. . .	13.3416	4306
25 Mar. (84) . . .	6 Fri. . .	19 57 54	22 Mar. (81) . . .	3 Tues. . .	48.0239	4307
26 Mar. (85) . . .	1 Sun. . .	2 10 3	12 Mar. (71) . . .	1 Sun. . .	262.3788	4308
26 Mar. (85) . . .	2 Mon. . .	8 22 12	1 Mar. (60) . . .	5 Thur. . .	138.1017	4309
25 Mar. (85) . . .	3 Tues. . .	14 34 21	19 Mar. (79) . . .	4 Wed. . .	172.7840	4310
25 Mar. (84) . . .	4 Wed. . .	20 46 30	8 Mar. (67) . . .	1 Sun. . .	48.5069	4311
26 Mar. (85) . . .	6 Fri. . .	2 58 39	26 Feb. (57) . . .	6 Fri. . .	262.8617	4312
26 Mar. (85) . . .	0 Sat. . .	9 10 48	17 Mar. (76) . . .	5 Thur. . .	297.5441	4313
25 Mar. (85) . . .	1 Sun. . .	15 22 57	5 Mar. (65) . . .	2 Mon. . .	173.2669	4314
25 Mar. (84) . . .	2 Mon. . .	21 35 6	24 Mar. (83) . . .	1 Sun. . .	207.9493	4315
26 Mar. (85) . . .	4 Wed. . .	3 47 15	13 Mar. (72) . . .	5 Thur. . .	83.6722	4316
26 Mar. (85) . . .	5 Thur. . .	9 59 24	3 Mar. (62) . . .	3 Tues. . .	298.0269	4317
25 Mar. (85) . . .	6 Fri. . .	16 11 33	21 Mar. (81) . . .	2 Mon. . .	332.7094	4318
25 Mar. (84) . . .	0 Sat. . .	22 23 42	10 Mar. (69) . . .	6 Fri. . .	208.4322	4319
26 Mar. (85) . . .	2 Mon. . .	4 35 51	27 Feb. (58) . . .	3 Tues. . .	84.1551	4320

TABLE

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Śaka.	Chaitrī Vikrama.	Mēshadi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southera system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4321	1142	1277	626	394-95	1219-20	13 Pramāthin .	17 Subhānu .	...
4322	1143	1278	627	395-96	*1220-21	14 Vikrama .	18 Tāraṇa .	12 Phālguna .
4323	1144	1279	628	396-97	1221-22	15 Vṛisha .	19 Pāthiva .	...
4324	1145	1280	629	397-98	1222-23	16 Chitrabhānu .	20 Vyaya .	...
4325	1146	1281	630	398-99	1223-24	17 Subhānu .	21 Sarvajit .	9 Mārgasīra .
4326	1147	1282	631	399-400	*1224-25	18 Tāraṇa .	22 Sarvadhārin .	...
4327	1148	1283	632	400-01	1225-26	19 Pārthiva .	23 Virōdhin .	...
4328	1149	1284	633	401-02	1226-27	20 Vyaya .	24 Vikṛita .	5 Śrāvapa .
4329	1150	1285	634	402-03	1227-28	21 Sarvajit .	25 Khara .	...
4330	1151	1286	635	403-04	*1228-29	22 Sarvadhārin .	26 Nandana .	...
4331	1152	1287	636	404-05	1229-30	23 Virōdhin .	27 Vijaya .	2 Vaisākha .
4332	1153	1288	637	405-06	1230-31	24 Vikṛita .	28 Jaya .	...
4333	1154	1289	638	406-07	1231-32	25 Khara .	29 Manmatha .	10 Pausa .
4334	1155	1290	639	407-08	*1232-33	26 Nandana .	30 Durmukha .	...
4335	1156	1291	640	408-09	1233-34	27 Vijaya .	31 Hēmalamba .	...
4336	1157	1292	641	409-10	1234-35	28 Jaya .	32 Vilamba .	7 Āśvina .
4337	1158	1293	642	410-11	1235-36	29 Manmatha .	33 Vikārin .	...
4338	1159	1294	643	411-12	*1236-37	30 Durmukha .	34 Śārvarin .	...
4339	1160	1295	644	412-13	1237-38	31 Hēmalamba .	35 Plava .	4 Ābādha .
4340	1161	1296	645	413-14	1238-39	32 Vilamba .	36 Śubhakṛit .	...
4341	1162	1297	646	414-15	1239-40	33 Vikārin .	37 Śobhana .	12 Phālguna .
4342	1163	1298	647	415-16	*1240-41	34 Śārvarin .	38 Krōdhin .	...
4343	1164	1299	648	416-17	1241-42	35 Plava .	39 Viśvāvaṇa .	...
4344	1165	1300	649	417-18	1242-43	36 Śubhakṛit .	40 Parābhava .	9 Mārgasīra .
4345	1166	1301	650	418-19	1243-44	37 Śobhana .	41 Plavaṅga .	...

XO—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēṣha-saṁkrānti.	Day and month, A.D.	Week-day.	<i>a</i> (here = <i>t</i> , the index of the <i>tiddhi</i> ).	
13	14	17	19	20	23	
		H. M. S.				
26 Mar. (85) . . .	3 Tues. . .	10 48 0	18 Mar. (77) . . .	2 Mon. . .	118·8374	4321
25 Mar. (85) . . .	4 Wed. . .	17 0 9	7 Mar. (67) . . .	0 Sat. . .	333·1923	4322
25 Mar. (84) . . .	5 Thur. . .	23 12 18	25 Mar. (84) . . .	5 Thur. . .	29·2427	4323
26 Mar. (85) . . .	0 Sat. . .	5 24 27	15 Mar. (74) . . .	3 Tues. . .	243·5975	4324
26 Mar. (85) . . .	1 Sun. . .	11 36 36	4 Mar. (63) . . .	0 Sat. . .	119·3203	4325
25 Mar. (85) . . .	2 Mon. . .	17 48 45	22 Mar. (82) . . .	6 Fri. . .	154·0027	4326
26 Mar. (85) . . .	4 Wed. . .	0 0 54	11 Mar. (70) . . .	3 Tues. . .	29·7256	4327
26 Mar. (85) . . .	5 Thur. . .	6 13 3	1 Mar. (60) . . .	1 Sun. . .	244·0804	4328
26 Mar. (85) . . .	6 Fri. . .	12 25 12	20 Mar. (79) . . .	0 Sat. . .	278·7628	4329
25 Mar. (85) . . .	0 Sat. . .	18 37 21	8 Mar. (68) . . .	4 Wed. . .	154·4857	4330
26 Mar. (85) . . .	2 Mon. . .	0 49 30	25 Feb. (56) . . .	1 Sun. . .	30·2084	4331
26 Mar. (85) . . .	3 Tues. . .	7 1 39	16 Mar. (75) . . .	0 Sat. . .	64·8908	4332
26 Mar. (85) . . .	4 Wed. . .	13 13 48	6 Mar. (65) . . .	5 Thur. . .	270·2457	4333
25 Mar. (85) . . .	5 Thur. . .	19 25 57	24 Mar. (84) . . .	4 Wed. . .	813·9281	4334
26 Mar. (85) . . .	0 Sat. . .	1 38 6	13 Mar. (72) . . .	1 Sun. . .	189·6509	4335
26 Mar. (85) . . .	1 Sun. . .	7 50 15	2 Mar. (61) . . .	5 Thur. . .	65·3738	4336
26 Mar. (85) . . .	2 Mon. . .	14 2 24	21 Mar. (80) . . .	4 Wed. . .	100·0562	4337
25 Mar. (85) . . .	3 Tues. . .	20 14 33	10 Mar. (70) . . .	2 Mon. . .	314·4110	4338
26 Mar. (85) . . .	5 Thur. . .	2 26 42	27 Feb. (58) . . .	6 Fri. . .	190·1338	4339
26 Mar. (85) . . .	6 Fri. . .	8 38 51	18 Mar. (77) . . .	5 Thur. . .	224·8162	4340
26 Mar. (85) . . .	0 Sat. . .	14 51 0	7 Mar. (66) . . .	2 Mon. . .	100·5391	4341
25 Mar. (85) . . .	1 Sun. . .	21 3 9	25 Mar. (85) . . .	1 Sun. . .	135·2214	4342
26 Mar. (85) . . .	3 Tues. . .	3 15 18	14 Mar. (73) . . .	5 Thur. . .	10·9443	4343
26 Mar. (85) . . .	4 Wed. . .	9 27 27	4 Mar. (63) . . .	3 Tues. . .	225·2091	4344
26 Mar. (85) . . .	5 Thur. . .	15 39 36	23 Mar. (82) . . .	2 Mon. . .	250·9815	4345

TABLE

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4346	1167	1302	651	419-20	*1244-45	38 Krōdhin .	42 Kīlaka† .	...
4347	1168	1303	652	420-21	1245-46	39 Viśvāvasu .	44 Sādhāraṇa .	5 Śrāvaṇa .
4348	1169	1304	653	421-22	1246-47	40 Parābhava .	45 Virōdhakṛit .	...
4349	1170	1305	654	422-23	1247-48	41 Plavaṅga .	46 Paridhāvin .	...
4350	1171	1306	655	423-24	*1248-49	42 Kīlaka .	47 Pramādin .	2 Vaiśākha .
4351	1172	1307	656	424-25	1249-50	43 Saumya .	48 Ānanda .	...
4352	1173	1308	657	425-26	1250-51	44 Sādhāraṇa .	49 Rākshasa .	10 Pausa .
4353	1174	1309	658	426-27	1251-52	45 Virōdhakṛit .	50 Anala .	...
4354	1175	1310	659	427-28	*1252-53	46 Paridhāvin .	51 Piṅgala .	...
4355	1176	1311	660	428-29	1253-54	47 Pramādin .	52 Kālayukta .	7 Āsvina .
4356	1177	1312	661	429-30	1254-55	48 Ānanda .	53 Siddhārthin .	...
4357	1178	1313	662	430-31	1255-56	49 Rākshasa .	54 Raudra .	...
4358	1179	1314	663	431-32	*1256-57	50 Anala .	55 Durmati .	3 Jyēṣṭha .
4359	1180	1315	664	432-33	1257-58	51 Piṅgala .	56 Dundubhi .	...
4360	1181	1316	665	433-34	1258-59	52 Kālayukta .	57 Rudhirōdgārin .	12 Phālguna .
4361	1182	1317	666	434-35	1259-60	53 Siddhārthin .	58 Raktāksha .	...
4362	1183	1318	667	435-36	*1260-61	54 Raudra .	59 Krōdhana .	...
4363	1184	1319	668	436-37	1261-62	55 Durmati .	60 Kshaya .	8 Kārttika .
4364	1185	1320	669	437-38	1262-63	56 Dundubhi .	1 Prabhava .	...
4365	1186	1321	670	438-39	1263-64	57 Rudhirōdgārin .	2 Vibhava .	...
4366	1187	1322	671	439-40	*1264-65	58 Raktāksha .	3 Śukla .	5 Śrāvaṇa .
4367	1188	1323	672	440-41	1265-66	59 Krōdhana .	4 Pramōda .	...
4368	1189	1324	673	441-42	1266-67	60 Kshaya .	5 Prajāpati .	...
4369	1190	1325	674	442-43	1267-68	1 Prabhava .	6 Aṅgiras .	1 Chaitra .
4370	1191	1326	675	443-44	*1268-69	2 Vibhava .	7 Śrīmukha .	...

† 43 Saumya was suppressed in the north by the mean system. By the "true" system K.Y. 4346 (expired), A.D. 1245-46, was called "Saumya," 44 Sādhāraṇa being suppressed. The next year was 45 Virōdhakṛit by both systems of reckoning.

XC—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-samkrānti.	Day and month, A.D.	Week-day.	a (here = t, the index of the <i>tithi</i> ).	
13	14	17	19	20	23	
		H. M. S.				1
25 Mar. (85) . . .	6 Fri. . .	21 51 45	11 Mar. (71) . . .	6 Fri. . .	135·7043	4346
26 Mar. (85) . . .	1 Sun. . .	4 3 54	28 Feb. (59) . . .	3 Tues. . .	11·4272	4347
26 Mar. (85) . . .	2 Mon. . .	10 16 3	19 Mar. (78) . . .	2 Mon. . .	46·1096	4348
26 Mar. (85) . . .	3 Tues. . .	16 28 12	9 Mar. (68) . . .	0 Sat. . .	260·4644	4349
25 Mar. (85) . . .	4 Wed. . .	22 40 21	26 Feb. (57) . . .	4 Wed. . .	186·1872	4350
26 Mar. (85) . . .	6 Fri. . .	4 52 30	16 Mar. (75) . . .	3 Tues. . .	170·8696	4351
26 Mar. (85) . . .	0 Sat. . .	11 4 39	5 Mar. (64) . . .	0 Sat. . .	46·5925	4352
26 Mar. (85) . . .	1 Sun. . .	17 16 48	24 Mar. (83) . . .	6 Fri. . .	81·2748	4353
25 Mar. (85) . . .	2 Mon. . .	23 28 57	13 Mar. (73) . . .	4 Wed. . .	295·3297	4354
26 Mar. (85) . . .	4 Wed. . .	5 41 6	2 Mar. (61) . . .	1 Sun. . .	171·3526	4355
26 Mar. (85) . . .	5 Thur. . .	11 53 15	21 Mar. (80) . . .	0 Sat. . .	206·0349	4356
26 Mar. (85) . . .	6 Fri. . .	18 6 24	10 Mar. (69) . . .	4 Wed. . .	81·7577	4357
26 Mar. (86) . . .	1 Sun. . .	0 17 33	28 Feb. (59) . . .	2 Mon. . .	296·1126	4358
26 Mar. (85) . . .	2 Mon. . .	6 29 42	18 Mar. (77) . . .	1 Sun. . .	330·7950	4359
26 Mar. (85) . . .	3 Tues. . .	12 41 51	7 Mar. (66) . . .	5 Thur. . .	206·5178	4360
26 Mar. (85) . . .	4 Wed. . .	18 54 0	26 Mar. (85) . . .	4 Wed. . .	241·2002	4361
26 Mar. (86) . . .	6 Fri. . .	1 6 9	14 Mar. (74) . . .	1 Sun. . .	116·9231	4362
26 Mar. (85) . . .	0 Sat. . .	7 18 18	4 Mar. (63) . . .	6 Fri. . .	331·2778	4363
23 Mar. (85) . . .	1 Sun. . .	13 30 27	22 Mar. (81) . . .	4 Wed. . .	27·3283	4364
26 Mar. (85) . . .	2 Mon. . .	19 42 36	12 Mar. (71) . . .	2 Mon. . .	241·6831	4365
26 Mar. (86) . . .	4 Wed. . .	1 54 45	29 Feb. (60) . . .	6 Fri. . .	117·4060	4366
26 Mar. (85) . . .	5 Thur. . .	8 6 54	19 Mar. (78) . . .	5 Thur. . .	152·0883	4367
26 Mar. (85) . . .	6 Fri. . .	14 19 3	8 Mar. (67) . . .	2 Mon. . .	27·8112	4368
26 Mar. (85) . . .	0 Sat. . .	20 31 12	26 Feb. (57) . . .	0 Sat. . .	242·1660	4369
26 Mar. (86) . . .	2 Mon. . .	2 43 21	16 Mar. (76) . . .	6 Fri. . .	276·8483	4370



TABLE

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēbhādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSAHA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4371	1193	1327	676	444-45	1269-70	3 Śukla . .	8 Bhāva . .	10 Pausa . .
4372	1193	1328	677	445-46	1270-71	4 Pramōda . .	9 Yuvan . .	...
4373	1194	1329	678	446-47	1271-72	5 Prajāpati . .	10 Dhātṛi . .	...
4374	1195	1330	679	447-48	*1272-73	6 Aṅgiras . .	11 Īvara . .	7 Āvina . .
4375	1196	1331	680	448-49	1273-74	7 Śṛimukha . .	12 Bahudhānya . .	...
4376	1197	1332	681	449-50	1274-75	8 Bhāva . .	13 Pramāthīn . .	...
4377	1198	1333	682	450-51	1275-76	9 Yuvan . .	14 Vikrama . .	3 Jyēṣṭha . .
4378	1199	1334	683	451-52	*1276-77	10 Dhātṛi . .	15 Vṛisha . .	...
4379	1200	1335	684	452-53	1277-78	11 Īvara . .	16 Chitrabhānu . .	12 Phālguna . .
4380	1201	1336	685	453-54	1278-79	12 Bahudhānya . .	17 Subhānu . .	...
4381	1202	1337	686	454-55	1279-80	13 Pramāthīn . .	18 Tārana . .	...
4382	1203	1338	687	455-56	*1280-81	14 Vikrama . .	19 Pārthiva . .	8 Kārtika . .
4383	1204	1339	688	456-57	1281-82	15 Vṛisha . .	20 Vyaya . .	...
4384	1205	1340	689	457-58	1282-83	16 Chitrabhānu . .	21 Sarvajit . .	...
4385	1206	1341	690	458-59	1283-84	17 Subhānu . .	22 Sarvadhārin . .	5 Śrāvaṇa . .
4386	1207	1342	691	459-60	*1284-85	18 Tārana . .	23 Virōdhin . .	...
4387	1208	1343	692	460-61	1285-86	19 Pārthiva . .	24 Vikṛita . .	...
4388	1209	1344	693	461-62	1286-87	20 Vyaya . .	25 Khara . .	1 Chaitra . .
4389	1210	1345	694	462-63	1287-88	21 Sarvajit . .	26 Nandana . .	...
4390	1211	1346	695	463-64	*1288-89	22 Sarvadhārin . .	27 Vijaya . .	10 Pausa . .
4391	1212	1347	696	464-65	1289-90	23 Virōdhin . .	28 Jaya . .	...
4392	1213	1348	697	465-66	1290-91	24 Vikṛita . .	29 Manmatha . .	...
4393	1214	1349	698	466-67	1291-92	25 Khara . .	30 Duraukha . .	6 Bhādrapada . .
4394	1215	1350	699	467-68	*1292-93	26 Nandana . .	31 Hēmalamba . .	...
4395	1216	1351	700	468-69	1293-94	27 Vijaya . .	32 Vilamba . .	...

XC—contd.

COMMENCEMENT OF THE							Kali.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).				
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	a (here = t, the index of the tithi).		
13	14	17	19	20	23	1	
		H. M. S.					
26 Mar. (85) . . .	3 Tues. .	8 55 30	5 Mar. (64) . . .	3 Tues. .	152-5712	4371	
26 Mar. (85) . . .	4 Wed. .	15 7 39	24 Mar. (83) . . .	2 Mon. .	187-2536	4372	
26 Mar. (85) . . .	5 Thur. .	21 19 48	13 Mar. (72) . . .	6 Fri. .	62-9765	4373	
26 Mar. (86) . . .	0 Sat. .	3 31 57	2 Mar. (62) . . .	4 Wed. .	277-3313	4374	
26 Mar. (85) . . .	1 Sun. .	9 44 6	21 Mar. (80) . . .	3 Tues. .	312-0137	4375	
26 Mar. (85) . . .	2 Mon. .	15 56 15	10 Mar. (69) . . .	0 Sat. .	187-7365	4376	
26 Mar. (85) . . .	3 Tues. .	22 8 24	27 Feb. (58) . . .	4 Wed. .	63-4593	4377	
26 Mar. (86) . . .	5 Thur. .	4 20 33	17 Mar. (77) . . .	3 Tues. .	98-1417	4378	
26 Mar. (85) . . .	6 Fri. .	10 32 42	7 Mar. (66) . . .	1 Sun. .	312-4966	4379	
26 Mar. (85) . . .	0 Sat. .	16 44 51	25 Mar. (84) . . .	6 Fri. .	8-5470	4380	
26 Mar. (85) . . .	1 Sun. .	22 57 0	15 Mar. (74) . . .	4 Wed. .	222-9018	4381	
26 Mar. (86) . . .	3 Tues. .	5 9 9	3 Mar. (63) . . .	1 Sun. .	98-6246	4382	
26 Mar. (85) . . .	4 Wed. .	11 21 18	22 Mar. (81) . . .	0 Sat. .	133-3071	4383	
26 Mar. (85) . . .	5 Thur. .	17 33 27	11 Mar. (70) . . .	4 Wed. .	9-0209	4384	
26 Mar. (85) . . .	6 Fri. .	23 45 36	1 Mar. (60) . . .	2 Mon. .	223-3847	4385	
26 Mar. (86) . . .	1 Sun. .	5 57 45	19 Mar. (79) . . .	1 Sun. .	258-0671	4386	
26 Mar. (85) . . .	2 Mon. .	12 9 54	8 Mar. (67) . . .	5 Thur. .	133-7900	4387	
26 Mar. (85) . . .	3 Tues. .	18 22 3	25 Feb. (56) . . .	2 Mon. .	9-5127	4388	
27 Mar. (86) . . .	5 Thur. .	0 34 12	16 Mar. (75) . . .	1 Sun. .	44-1952	4389	
26 Mar. (86) . . .	6 Fri. .	6 46 21	5 Mar. (65) . . .	6 Fri. .	258-5500	4390	
26 Mar. (85) . . .	0 Sat. .	12 58 30	24 Mar. (83) . . .	5 Thur. .	293-2324	4391	
26 Mar. (85) . . .	1 Sun. .	19 10 39	13 Mar. (72) . . .	2 Mon. .	168-9552	4392	
27 Mar. (86) . . .	3 Tues. .	1 22 48	2 Mar. (61) . . .	6 Fri. .	44-6781	4393	
26 Mar. (86) . . .	4 Wed. .	7 34 57	20 Mar. (80) . . .	5 Thur. .	79-3606	4394	
26 Mar. (85) . . .	5 Thur. .	13 47 6	10 Mar. (69) . . .	3 Tues. .	203-7152	4395	

TABLE

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Saka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4396	1217	1352	701	469-70	1294-95	28 Jaya .	33 Vikārin .	3 Jyēshṭha .
4397	1218	1353	702	470-71	1295-96	29 Manmatha .	34 Śārvarin .	...
4398	1219	1354	703	471-72	*1296-97	30 Durmukha .	35 Plava .	11 Māgha .
4399	1220	1355	704	472-73	1297-98	31 Hēmalamba .	36 Śubhakṛit .	...
4400	1221	1356	705	473-74	1298-99	32 Vilamba .	37 Śōbhana .	...
4401	1222	1357	706	474-75	1299-1300	33 Vikārin .	38 Krōdhin .	8 Kārttika .
4402	1223	1358	707	475-76	*1300-01	34 Śārvarin .	39 Viśvāvasu .	...
4403	1224	1359	708	476-77	1301-02	35 Plava .	40 Parābhava .	...
4404	1225	1360	709	477-78	1302-03	36 Śubhakṛit .	41 Plavaṅga .	4 Āshāḍha .
4405	1226	1361	710	478-79	1303-04	37 Śōbhana .	42 Kilaka .	...
4406	1227	1362	711	479-80	*1304-05	38 Krōdhin .	43 Saumya .	...
4407	1228	1363	712	480-81	1305-06	39 Viśvāvasu .	44 Sādhārāṇa .	1 Chaitra .
4408	1229	1364	713	481-82	1306-07	40 Parābhava .	45 Virōdhakṛit .	...
4409	1230	1365	714	482-83	1307-08	41 Plavaṅga .	46 Paridhāvin .	10 Pausa ‡ .
4410	1231	1366	715	483-84	*1308-09	42 Kilaka .	47 Pramādin .	...
4411	1232	1367	716	484-85	1309-10	43 Saumya .	48 Ānanda .	...
4412	1233	1368	717	485-86	1310-11	44 Sādhārāṇa .	49 Rākhasa .	6 Bhādrapada .
4413	1234	1369	718	486-87	1311-12	45 Virōdhakṛit .	50 Anala .	...
4414	1235	1370	719	487-88	*1312-13	46 Paridhāvin .	51 Piṅgala .	...
4415	1236	1371	720	488-89	1313-14	47 Pramādin .	52 Kālayukta .	3 Jyēshṭha .
4416	1237	1372	721	489-90	1314-15	48 Ānanda .	53 Siddhārthin .	...
4417	1238	1373	722	490-91	1315-16	49 Rākhasa .	54 Raudra .	11 Māgha .
4418	1239	1374	723	491-92	*1316-17	50 Anala .	55 Durmatī .	...
4419	1240	1375	724	492-93	1317-18	51 Piṅgala .	56 Dandabhi .	...
4420	1241	1376	725	493-94	1318-19	52 Kālayukta .	57 Rudhirōdgārin .	8 Kārttika .

‡ See "Remarks," p. 215, preceding this Table.

XC—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA BENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mōsha-saṅkrānti.	Day and month, A.D.	Week-day.	$\alpha$ (here = $t$ , the index of the <i>tithi</i> ).	
13	14	17	19	20	23	1
		H. M. S.				
26 Mar. (85) . . .	6 Fri. . .	19 59 15	27 Feb. (58) . . .	0 Sat. . .	169·4381	4396
27 Mar. (86) . . .	1 Sun. . .	2 11 24	18 Mar. (77) . . .	6 Fri. . .	204·1205	4397
26 Mar. (86) . . .	2 Mon. . .	8 23 33	6 Mar. (66) . . .	3 Tues. . .	79·8433	4398
26 Mar. (85) . . .	3 Tues. . .	14 35 42	25 Mar. (84) . . .	2 Mon. . .	114·5257	4399
26 Mar. (85) . . .	4 Wed. . .	20 47 51	15 Mar. (74) . . .	0 Sat. . .	328·8806	4400
27 Mar. (86) . . .	6 Fri. . .	3 0 0	4 Mar. (63) . . .	4 Wed. . .	204·6034	4401
26 Mar. (86) . . .	0 Sat. . .	9 12 9	22 Mar. (82) . . .	3 Tues. . .	239·2859	4402
26 Mar. (85) . . .	1 Sun. . .	15 24 18	11 Mar. (70) . . .	0 Sat. . .	115·0087	4403
26 Mar. (85) . . .	2 Mon. . .	21 36 27	1 Mar. (60) . . .	5 Thur. . .	329·3635	4404
27 Mar. (86) . . .	4 Wed. . .	3 48 36	19 Mar. (78) . . .	3 Tues. . .	25·4139	4405
26 Mar. (86) . . .	5 Thur. . .	10 0 45	8 Mar. (68) . . .	1 Sun. . .	239·7688	4406
26 Mar. (85) . . .	6 Fri. . .	16 12 54	25 Feb. (56) . . .	5 Thur. . .	115·4915	4407
26 Mar. (85) . . .	0 Sat. . .	22 25 3	16 Mar. (75) . . .	4 Wed. . .	150·1739	4408
27 Mar. (86) . . .	2 Mon. . .	4 37 12	5 Mar. (64) . . .	1 Sun. . .	25·8968	4409
26 Mar. (86) . . .	3 Tues. . .	10 49 21	23 Mar. (83) . . .	0 Sat. . .	60·5791	4410
26 Mar. (85) . . .	4 Wed. . .	17 1 30	13 Mar. (72) . . .	5 Thur. . .	274·9340	4411
26 Mar. (85) . . .	5 Thur. . .	23 13 39	2 Mar. (61) . . .	2 Mon. . .	150·6569	4412
27 Mar. (86) . . .	0 Sat. . .	5 25 48	21 Mar. (80) . . .	1 Sun. . .	185·3393	4413
26 Mar. (86) . . .	1 Sun. . .	11 37 57	9 Mar. (69) . . .	5 Thur. . .	61·0621	4414
26 Mar. (85) . . .	2 Mon. . .	17 50 6	27 Feb. (58) . . .	3 Tues. . .	275·4169	4415
27 Mar. (86) . . .	4 Wed. . .	0 2 15	18 Mar. (77) . . .	2 Mon. . .	310·0993	4416
27 Mar. (86) . . .	5 Thur. . .	6 14 24	7 Mar. (66) . . .	6 Fri. . .	185·8221	4417
26 Mar. (86) . . .	6 Fri. . .	12 26 33	25 Mar. (85) . . .	5 Thur. . .	220·5045	4418
26 Mar. (85) . . .	0 Sat. . .	18 38 42	14 Mar. (78) . . .	2 Mon. . .	96·2274	4419
27 Mar. (86) . . .	2 Mon. . .	0 50 51	4 Mar. (63) . . .	0 Sat. . .	310·5822	4420

TABLE

CONCURRENT YEAR.								
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		Mean intercalated ( <i>adhika</i> ) lunar month.
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4421	1212	1377	726	494-95	1319-20	53 Siddhānthin .	58 Raktāksha .	...
4422	1213	1378	727	495-96	*1320-21	54 Raudra .	59 Krōdhana .	...
4423	1214	1379	728	496-97	1321-22	55 Darmati .	60 Kshaya .	4 Āshādha .
4424	1215	1380	729	497-98	1322-23	56 Dundubhi .	1 Prabhava .	...
4425	1216	1381	730	498-99	1323-24	57 Radhirōdgārīn .	2 Vibhava .	...
4426	1217	1382	731	499-500	*1324-25	58 Raktāksha .	3 Śukla .	1 Chaitra .
4427	1218	1383	732	500-01	1325-26	59 Krōdhana .	4 Pramōda .	...
4428	1219	1384	733	501-02	1326-27	60 Kshaya .	5 Prajāpati .	9 Mārgaśira .
4429	1250	1385	734	502-03	1327-28	1 Prabhava .	6 Aṅgiras .	...
4430	1251	1386	735	503-04	*1328-29	2 Vibhava .	7 Śrīmukha .	...
4431	1252	1387	736	504-05	1329-30	3 Śukla .	8 Bhāvat .	6 Bhādrapada .
4432	1253	1388	737	505-06	1330-31	4 Pramōda .	10 Dhātṛi .	...
4433	1254	1389	738	506-07	1331-32	5 Prajāpati .	11 Itara .	...
4434	1255	1390	739	507-08	*1332-33	6 Aṅgiras .	12 Bahudhānya .	2 Vaiśākha .
4435	1256	1391	740	508-09	1333-34	7 Śrīmukha .	13 Pramāthin .	...
4436	1257	1392	741	509-10	1334-35	8 Bhāva .	14 Vikrama .	11 Māgha .
4437	1258	1393	742	510-11	1335-36	9 Yuvan .	15 Vṛisha .	...
4438	1259	1394	743	511-12	*1336-37	10 Dhātṛi .	16 Chitrabhānu .	...
4439	1260	1395	744	512-13	1337-38	11 Īvara .	17 Subhānu .	7 Āsvina .
4440	1261	1396	745	513-14	1338-39	12 Bahudhānya .	18 Tāraka .	...
4441	1262	1397	746	514-15	1339-40	13 Pramāthin .	19 Pārthiva .	...
4442	1263	1398	747	515-16	*1340-41	14 Vikrama .	20 Vyaya .	4 Āshādha .
4443	1264	1399	748	516-17	1341-42	15 Vṛisha .	21 Sarvajit .	...
4444	1265	1400	749	517-18	1342-43	16 Chitrabhānu .	22 Sarvadhārīn .	12 Phālguna .
4445	1266	1401	750	518-19	1343-44	17 Subhānu .	23 Virōdhin .	...

† 9 Yuvan was suppressed in the north by the mean system. By the "true" system K.Y. 4431 (expired), A.D. 1330-31, was called "Yuvan," and 10 Dhātṛi was suppressed. The next year was 11 Īvara by both systems.

XC—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṁkrānti.	Day and month, A.D.	Week-day.	<i>a</i> (here <i>a</i> , the index of the <i>tithi</i> ).	
13	14	17	19	20	23	
		H. M. S.				
27 Mar. (86) . . .	3 Tues. . .	7 3 0	22 Mar. (81) . . .	5 Thur. . .	66326	4421
26 Mar. (86) . . .	4 Wed. . .	13 15 9	11 Mar. (71) . . .	3 Tues. . .	2209874	4422
26 Mar. (85) . . .	5 Thur. . .	19 27 18	28 Feb. (59) . . .	0 Sat. . .	967103	4423
27 Mar. (86) . . .	0 Sat. . .	1 39 27	19 Mar. (78) . . .	6 Fri. . .	1315926	4424
27 Mar. (86) . . .	1 Sun. . .	7 51 36	8 Mar. (67) . . .	3 Tues. . .	71155	4425
26 Mar. (86) . . .	2 Mon. . .	14 3 45	26 Feb. (57) . . .	1 Sun. . .	2214703	4426
26 Mar. (85) . . .	3 Tues. . .	20 15 54	16 Mar. (75) . . .	0 Sat. . .	2561527	4427
27 Mar. (86) . . .	5 Thur. . .	2 28 3	5 Mar. (64) . . .	4 Wed. . .	1316755	4428
27 Mar. (86) . . .	6 Fri. . .	8 40 12	24 Mar. (83) . . .	3 Tues. . .	1665579	4429
26 Mar. (86) . . .	0 Sat. . .	14 52 21	12 Mar. (72) . . .	0 Sat. . .	422808	4430
26 Mar. (85) . . .	1 Sun. . .	21 4 30	2 Mar. (61) . . .	5 Thur. . .	2566356	4431
27 Mar. (86) . . .	3 Tues. . .	3 16 39	21 Mar. (80) . . .	4 Wed. . .	2914180	4432
27 Mar. (86) . . .	4 Wed. . .	9 29 48	10 Mar. (69) . . .	1 Sun. . .	1670409	4433
26 Mar. (86) . . .	5 Thur. . .	15 40 57	27 Feb. (58) . . .	5 Thur. . .	427637	4434
26 Mar. (85) . . .	6 Fri. . .	21 53 6	17 Mar. (76) . . .	4 Wed. . .	774460	4435
27 Mar. (86) . . .	1 Sun. . .	4 5 15	7 Mar. (66) . . .	2 Mon. . .	2918009	4436
27 Mar. (86) . . .	2 Mon. . .	10 17 24	25 Mar. (85) . . .	1 Sun. . .	3264833	4437
26 Mar. (86) . . .	3 Tues. . .	16 29 33	14 Mar. (74) . . .	5 Thur. . .	2022062	4438
26 Mar. (85) . . .	4 Wed. . .	22 41 42	3 Mar. (62) . . .	2 Mon. . .	779289	4439
27 Mar. (86) . . .	6 Fri. . .	4 53 51	22 Mar. (81) . . .	1 Sun. . .	1126114	4440
27 Mar. (86) . . .	0 Sat. . .	11 6 0	12 Mar. (71) . . .	6 Fri. . .	3269662	4441
26 Mar. (86) . . .	1 Sun. . .	17 18 9	29 Feb. (60) . . .	3 Tues. . .	2026890	4442
26 Mar. (85) . . .	2 Mon. . .	23 30 18	19 Mar. (78) . . .	2 Mon. . .	2373714	4443
27 Mar. (86) . . .	4 Wed. . .	5 42 27	8 Mar. (67) . . .	6 Fri. . .	1136943	4444
27 Mar. (86) . . .	5 Thur. . .	11 54 36	27 Mar. (86) . . .	5 Thur. . .	1477767	4445

TABLE

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4446	1267	1402	751	519-20	*1344-45	18 Tārāṇa . .	24 Vikṛita . .	...
4447	1268	1403	752	520-21	1345-46	19 Pārthiva . .	25 Khara . .	9 Mārgaśira .
4448	1269	1404	753	521-22	1346-47	20 Vyaya . .	26 Nandana . .	...
4449	1270	1405	754	522-23	1347-48	21 Sarvajit . .	27 Vijaya . .	...
4450	1271	1406	755	523-24	*1348-49	22 Sarvadhārin . .	28 Jaya . .	6 Bhādrapada .
4451	1272	1407	756	524-25	1349-50	23 Virōdhin . .	29 Manmatha . .	...
4452	1273	1408	757	525-26	1350-51	24 Vikṛita . .	30 Durmukha . .	...
4453	1274	1409	758	526-27	1351-52	25 Khara . .	31 Hēmalamba . .	2 Vaiśākha .
4454	1275	1410	759	527-28	*1352-53	26 Nandana . .	32 Vilamba . .	...
4455	1276	1411	760	528-29	1353-54	27 Vijaya . .	33 Vikārin . .	11 Māgha .
4456	1277	1412	761	529-30	1354-55	28 Jaya . .	34 Śārvarin . .	...
4457	1278	1413	762	530-31	1355-56	29 Manmatha . .	35 Plava . .	...
4458	1279	1414	763	531-32	*1356-57	30 Durmukha . .	36 Śubhakṛit . .	7 Āśvina .
4459	1280	1415	764	532-33	1357-58	31 Hēmalamba . .	37 Śōbhana . .	...
4460	1281	1416	765	533-34	1358-59	32 Vilamba . .	38 Krōdhin . .	...
4461	1282	1417	766	534-35	1359-60	33 Vikārin . .	39 Viśvāvasu . .	4 Āshāḍha .
4462	1283	1418	767	535-36	*1360-61	34 Śārvarin . .	40 Parābhava . .	...
4463	1284	1419	768	536-37	1361-62	35 Plava . .	41 Plavaṅga . .	12 Phālguna .
4464	1285	1420	769	537-38	1362-63	36 Śubhakṛit . .	42 Kīlaka . .	...
4465	1286	1421	770	538-39	1363-64	37 Śōbhana . .	43 Saumya . .	...
4466	1287	1422	771	539-40	*1364-65	38 Krōdhin . .	44 Sādhārāṇa . .	9 Mārgaśira .
4467	1288	1423	772	540-41	1365-66	39 Viśvāvasu . .	45 Virōdhakṛit . .	...
4468	1289	1424	773	541-42	1366-67	40 Parābhava . .	46 Paridhāvin . .	...
4469	1290	1425	774	542-43	1367-68	41 Plavaṅga . .	47 Pramādin . .	5 Śrāvaṇa .
4470	1291	1426	775	543-44	*1368-69	42 Kīlaka . .	48 Ānanda . .	...

XC—contd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH 'HAITRA SUKLA' ENDS).			Kali.
Day and month, A.D.	Week-day.	Time of mean Māha-samkrānti.	Day and month, A.D.	Week-day.	a (here = t, the index of the <i>tithi</i> ).	
13	14	17	19	20	23	1
		H. M. S.				
26 Mar. (86) .	6 Fri.	18 6 45	15 Mar. (75)	2 Mon.	23·4995	4446
27 Mar. (86) .	1 Sun.	0 18 54	5 Mar. (64)	0 Sat.	237·8543	4447
27 Mar. (86) .	2 Mon.	6 31 3	24 Mar. (83)	6 Fri.	272·5307	4448
27 Mar. (86) .	3 Tues.	12 43 12	13 Mar. (72)	3 Tues.	148·2595	4449
26 Mar. (86) .	4 Wed.	18 55 21	1 Mar. (61)	0 Sat.	23·9824	4450
27 Mar. (86) .	6 Fri.	1 7 30	20 Mar. (79)	6 Fri.	58·6648	4451
27 Mar. (86) .	0 Sat.	7 19 39	10 Mar. (69)	4 Wed.	273·0197	4452
27 Mar. (86) .	1 Sun.	13 31 48	27 Feb. (58)	1 Sun.	148·7424	4453
26 Mar. (86) .	2 Mon.	19 43 57	17 Mar. (77)	0 Sat.	183·4248	4454
27 Mar. (86) .	4 Wed.	1 56 6	6 Mar. (65)	4 Wed.	59·1477	4455
27 Mar. (86) .	5 Thur.	8 8 15	25 Mar. (84)	3 Tues.	93·8300	4456
27 Mar. (86) .	6 Fri.	14 20 24	15 Mar. (74)	1 Sun.	308·1849	4457
26 Mar. (86) .	0 Sat.	20 32 33	3 Mar. (63)	5 Thur.	183·9077	4458
27 Mar. (86) .	2 Mon.	2 44 42	22 Mar. (81)	4 Wed.	218·5902	4459
27 Mar. (86) .	3 Tues.	8 56 51	11 Mar. (70)	1 Sun.	94·3129	4460
27 Mar. (86) .	4 Wed.	15 9 0	1 Mar. (60)	6 Fri.	308·6678	4461
26 Mar. (86) .	5 Thur.	21 21 9	18 Mar. (78)	4 Wed.	4·7182	4462
27 Mar. (86) .	0 Sat.	3 33 18	8 Mar. (67)	2 Mon.	219·0730	4463
27 Mar. (86) .	1 Sun.	9 45 27	27 Mar. (86)	1 Sun.	253·7554	4464
27 Mar. (86) .	2 Mon.	15 57 36	16 Mar. (75)	5 Thur.	129·4783	4465
26 Mar. (86) .	3 Tues.	22 9 45	4 Mar. (64)	2 Mon.	5·2011	4466
27 Mar. (86) .	5 Thur.	4 21 54	23 Mar. (82)	1 Sun.	39·8835	4467
27 Mar. (86) .	6 Fri.	10 34 3	13 Mar. (72)	6 Fri.	254·2383	4468
27 Mar. (86) .	0 Sat.	16 46 12	2 Mar. (61)	3 Tues.	129·9812	4469
26 Mar. (86) .	1 Sun.	22 18 21	20 Mar. (80)	2 Mon.	164·6435	4470



TABLE

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Bengal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4471	1292	1427	776	541-45	1369-70	43 Saumya .	49 Rākshasa .	...
4472	1293	1428	777	545-46	1370-71	44 Sādhāraṇa	50 Anala .	2 Vaiśākha
4473	1294	1429	778	546-47	1371-72	45 Virōdhakṛit .	51 Piṅgala .	...
4474	1295	1430	779	547-48	*1372-73	46 Paridhāvin .	52 Kālayukta .	10 Pausa
4475	1296	1431	780	548-49	1373-74	47 Pramādin .	53 Siddhārthin .	...
4476	1297	1432	781	549-50	1374-75	48 Ānanda .	54 Randra .	...
4477	1298	1433	782	550-51	1375-76	49 Rākshasa .	55 Durmati .	7 Āśvina
4478	1299	1434	783	551-52	*1376-77	50 Anala .	56 Dundubhi .	...
4479	1300	1435	784	552-53	1377-78	51 Piṅgala .	57 Rudhirōdgārin	...
4480	1301	1436	785	553-54	1378-79	52 Kālayukta .	58 Raktāksha .	3 Jyēsthā
4481	1302	1437	786	554-55	1379-80	53 Siddhārthin .	59 Krōdhana .	...
4482	1303	1438	787	555-56	*1380-81	54 Randra .	60 Kshaya .	12 Phālguna
4483	1304	1439	788	556-57	1381-82	55 Durmati .	1 Prabhava .	...
4484	1305	1440	789	557-58	1382-83	56 Dundubhi .	2 Vibhava .	...
4485	1306	1441	790	558-59	1383-84	57 Rudhirōdgārin .	3 Śukla .	9 Mārgaśira.
4486	1307	1442	791	559-60	*1384-85	58 Raktāksha .	4 Pramōda .	...
4487	1308	1443	792	560-61	1385-86	59 Krōdhana .	5 Prajāpati .	...
4488	1309	1444	793	561-62	1386-87	60 Kshaya .	6 Āṅgiras .	5 Śrāvaṇa
4489	1310	1445	794	562-63	1387-88	1 Prabhava .	7 Śrīmukha .	...
4490	1311	1446	795	563-64	*1388-89	2 Vibhava .	8 Bhāva .	...
4491	1312	1447	796	564-65	1389-90	3 Śukla .	9 Yuvan .	2 Vaiśākha
4492	1313	1448	797	565-66	1390-91	4 Pramōda .	10 Dhātṛi .	...
4493	1314	1449	798	566-67	1391-92	5 Prajāpati .	11 Īśvara .	10 Pausa
4494	1315	1450	799	567-68	*1392-93	6 Āṅgiras .	12 Bahudhānya .	...
4495	1316	1451	800	568-69	1393-94	7 Śrīmukha .	13 Pramāthin .	...

XC—contd.

COMMENCEMENT OF THE							Kali.
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA SUKLA 1 ENDS).				
Day and month, A.D.	Week-day.	Time of mean Mēsha-saṅkrānti.	Day and month, A.D.	Week-day.	<i>a</i> (here = <i>t</i> , the index of the <i>tithi</i> ).		
13	14	17	19	20	23	1	
		H. M. S.					
27 Mar. (86) . . .	3 Tues. . .	5 10 30	9 Mar. (68) . . .	6 Fri. . .	40·3664	4471	
27 Mar. (86) . . .	4 Wed. . .	11 22 39	27 Feb. (58) . . .	4 Wed. . .	254·7212	4472	
27 Mar. (86) . . .	5 Thur. . .	17 34 48	18 Mar. (77) . . .	3 Tues. . .	289·4036	4473	
26 Mar. (86) . . .	6 Fri. . .	23 46 57	6 Mar. (66) . . .	0 Sat. . .	165·1264	4474	
27 Mar. (86) . . .	1 Sun. . .	5 59 6	25 Mar. (84) . . .	6 Fri. . .	199·8088	4475	
27 Mar. (86) . . .	2 Mon. . .	12 11 15	14 Mar. (73) . . .	3 Tues. . .	75·5317	4476	
27 Mar. (86) . . .	3 Tues. . .	18 23 24	4 Mar. (63) . . .	1 Sun. . .	289·8864	4477	
27 Mar. (87) . . .	5 Thur. . .	0 35 33	22 Mar. (82) . . .	0 Sat. . .	324·5689	4478	
27 Mar. (86) . . .	6 Fri. . .	6 47 42	11 Mar. (70) . . .	4 Wed. . .	200·2917	4479	
27 Mar. (86) . . .	0 Sat. . .	12 59 51	28 Feb. (59) . . .	1 Sun. . .	76·0146	4480	
27 Mar. (86) . . .	1 Sun. . .	19 12 0	19 Mar. (78) . . .	0 Sat. . .	110·6969	4481	
27 Mar. (87) . . .	3 Tues. . .	1 24 9	8 Mar. (68) . . .	5 Thur. . .	325·0518	4482	
27 Mar. (86) . . .	4 Wed. . .	7 36 18	26 Mar. (85) . . .	3 Tues. . .	21·1022	4483	
27 Mar. (86) . . .	5 Thur. . .	13 48 27	16 Mar. (75) . . .	1 Sun. . .	235·4571	4484	
27 Mar. (86) . . .	6 Fri. . .	20 0 36	5 Mar. (64) . . .	5 Thur. . .	111·1798	4485	
27 Mar. (87) . . .	1 Sun. . .	2 12 45	23 Mar. (83) . . .	4 Wed. . .	145·8623	4486	
27 Mar. (86) . . .	2 Mon. . .	8 24 54	12 Mar. (71) . . .	1 Sun. . .	21·5851	4487	
27 Mar. (86) . . .	3 Tues. . .	14 37 3	2 Mar. (61) . . .	6 Fri. . .	235·9399	4488	
27 Mar. (86) . . .	4 Wed. . .	20 49 12	21 Mar. (80) . . .	5 Thur. . .	270·6223	4489	
27 Mar. (87) . . .	6 Fri. . .	3 1 21	9 Mar. (69) . . .	2 Mon. . .	146·3452	4490	
27 Mar. (86) . . .	0 Sat. . .	9 13 30	26 Feb. (57) . . .	6 Fri. . .	22·0680	4491	
27 Mar. (86) . . .	1 Sun. . .	15 25 39	17 Mar. (76) . . .	5 Thur. . .	56·7503	4492	
27 Mar. (86) . . .	2 Mon. . .	21 37 48	7 Mar. (66) . . .	3 Tues. . .	271·1052	4493	
27 Mar. (87) . . .	4 Wed. . .	3 49 57	25 Mar. (85) . . .	2 Mon. . .	305·7876	4494	
27 Mar. (86) . . .	5 Thur. . .	10 2 6	14 Mar. (73) . . .	6 Fri. . .	181·5104	4495	

TABLE

CONCURRENT YEAR.								Mean intercalated ( <i>adhika</i> ) lunar month.
Kali.	Śaka.	Chaitrādi Vikrama.	Mēshādi solar year in Pangal.	Kollam.	A.D.	JOVIAN SAMVATSARA.		
						Southern system.	Northern system.	
1	2	3	3a	4	5	6	7	8a
4496	1317	1452	801	569-70	1394-95	8 Bhāva . .	14 Vikrama . .	7 Āśvina . .
4497	1318	1453	802	570-71	1395-96	9 Yuvan . .	15 Vṛisha . .	...
4498	1319	1454	803	571-72	*1396-97	10 Dhātṛi . .	16 Chitrabhānu . .	...
4499	1320	1455	804	572-73	1397-98	11 Īsvara . .	17 Subhānu . .	3 Jyēṣṭha . .
4500	1321	1456	805	573-74	1398-99	12 Bahudhānya . .	18 Tārana . .	...
4501	1322	1457	806	574-75	1399-1400	13 Pramāthin . .	19 Pārthiva . .	12 Phālguna . .
4502	1323	1458	807	575-76	*1400-01	14 Vikrama . .	20 Vyaya . .	...

XC—concl'd.

COMMENCEMENT OF THE						
MEAN SOLAR YEAR.			MEAN LUNI-SOLAR YEAR (MEAN SUNRISE OF THE CIVIL DAY ON WHICH CHAITRA ŚUKLA 1 ENDS).			Kali.
Day and month, A.D.	Week-day	Time of mean Mēsha- sankrānti.	Day and month, A.D.	Week-day.	$a$ (here $= t$ , the index of the $ti/hi$ ).	
13	14	17	19	20	23	
		H. M. S.				
27 Mar. (86) . . .	6 Fri. . .	16 14 15	3 Mar. (62) . . .	3 Tues. . .	57-2333	4496
27 Mar. (86) . . .	0 Sat. . .	22 26 24	22 Mar. (81) . . .	2 Mon. . .	91-9157	4497
27 Mar. (87) . . .	2 Mon. . .	4 38 33	11 Mar. (71) . . .	0 Sat. . .	303-2704	4498
27 Mar. (86) . . .	3 Tues. . .	10 50 42	28 Feb. (59) . . .	4 Wed. . .	181-9933	4499
27 Mar. (86) . . .	4 Wed. . .	17 2 51	19 Mar. (78) . . .	3 Tues. . .	216-6757	4500
27 Mar. (86) . . .	5 Thur. . .	23 15 0	8 Mar. (67) . . .	0 Sat. . .	92-3986	4501
27 Mar. (87) . . .	0 Sat. . .	5 27 9	26 Mar. (86) . . .	6 Fri. . .	127-0810	4502

TABLE XCI.

DURATION AND COLLECTIVE DURATION OF MEAN SOLAR MONTHS ACCORDING TO THE BRAHMA-SIDDHĀNTA, WITH INCREASE OF  $a$  AT EACH SAMKRĀNTI.

Mean luni-solar month, ending after the second of the two solar samkrāntis connected with it.	At the mean solar samkrāntis.	Collective duration in time, and collective increase of $a$ from mean Mēsha-samkrānti to the several samkrāntis.			
		Day.	Week-day.	H. M. S.	$a$
1	2	3			4
1 Chaitra	{ Mīna-samk. (of previous year).				
2 Vaiśākha	{ Mēsha-samk.	0	0	0 0 0	0
3 Jyēsthā	{ Vṛishabha-samk.	30	(2)	10 31 0½	307·3492
4 Āshāḍha	{ Mithuna-samk.	60	(4)	21 2 1½	614·6983
5 Srāvaṇa	{ Karka-samk.	91	(0)	7 33 2½	922·0475
6 Bhādrapada	{ Simha-samk.	121	(2)	18 4 3	1229·3966
7 Āśvina	{ Kanyā-samk.	152	(5)	4 35 3½	1536·7458
8 Kārttika	{ Tulā-samk.	182	(0)	15 6 4½	1844·0949
9 Mārgaśīra	{ Vṛiśhika-samk.	213	(3)	1 37 5½	2151·4441
10 Pausa	{ Dhanus-samk.	243	(5)	12 8 6	2458·7933
11 Māgha	{ Makara-samk.	273	(0)	22 39 6½	2766·1424
12 Phālguna	{ Kumbha-samk.	304	(3)	9 10 7½	3073·4916
1 Chaitra (of following year).	{ Mīna-samk.	334	(5)	19 41 8½	3380·8407
	{ Mēsha-samk. (of following year).	365	(1)	6 12 9	3688·1899

The duration of each mean solar month is  $30^d 10^h 31^m 0\frac{1}{2}s$ ; and in this time the mean moon's increase of distance from mean sun (our  $a$ ), in measurement by 10,000ths of circle, is 307·349156595.

A samkrānti occurs at the moment when the mean sun enters a zodiacal sign.

TABLE XCII.

CENTURY-TABLE.

VALUE OF  $a (= t)$  AT BEGINNING OF CENTURIES K.Y., i.e. AT MEAN SUNRISE ON DAY OF OCCURRENCE OF MEAN MESHA-SAMKRĀNTI (MEAN SUN AT  $0^\circ$ ) IN FIRST YEAR OF CENTURY. [CENTURIES 38, 44, WERE DEFECTIVE; THE REST COMMON.]

Beginning of K.Y. century.	Beginning in A.D.	Week-day.	$a (= t)$ .
37	599	(0)	6228.4770
38	699	(0)	5100.3761
39	799	(6)	3633.6433
40	899	(6)	2505.5425
41	999	(6)	1377.4416
42	1099	(6)	249.3408
43	1199	(6)	9121.2399
44	1299	(6)	7993.1391
45	1399	(5)	6526.4063

For odd years of centuries use the *Siddhānta-Śirōmaṇi* Table LVII-B (above, Vol. XV).

TABLE XCIII.

MEAN SUNRISE VALUES OF  $a$  (DISTANCE OF MEAN MOON FROM MEAN SUN) IN 10,000THS OF CIRCLE FOR A MONTH PREVIOUS TO THE DAY ON WHICH MEAN MESHA-SAMKRĀNTI OCCURRED.

Interval of days from mean Mēsha-samkrānti day.	Week-day.	$a$ (mean sunrise value).	Interval of days from mean Mēsha-samkrānti day.	Week-day.	$a$ (mean sunrise value).
1	2	3	1	2	3
31	(4)	9502.4085	15	(6)	4920.5202
30	(5)	9841.0404	14	(0)	5259.1522
29	(6)	179.6724	13	(1)	5597.7842
28	(0)	518.3044	12	(2)	5936.4162
27	(1)	856.9364	11	(3)	6275.0482
26	(2)	1195.5684	10	(4)	6613.6801
25	(3)	1534.2004	9	(5)	6952.3121
24	(4)	1872.8324	8	(6)	7290.9441
23	(5)	2211.4643	7	(0)	7629.5761
22	(6)	2550.0963	6	(1)	7968.2081
21	(0)	2888.7283	5	(2)	8306.8401
20	(1)	3227.3603	4	(3)	8645.4721
19	(2)	3565.9923	3	(4)	8984.1040
18	(3)	3904.6243	2	(5)	9322.7360
17	(4)	4243.2563	1	(6)	9661.3680
16	(5)	4581.8882	0	(0)	0.0

The use of this Table is explained in Example 2 of this article, and in Example 1 of article on the *First Arya-Siddhānta, mean system* (above, Vol. XVI).

## TABLE XCIV.

TIME-EQUIVALENTS OF THE TITHI ( $a$  or  $t$ ), NAKSHATRA ( $n$ ), AND YŌGA ( $y$ ) UNITS.

In very close cases it is sometimes necessary to calculate the exact moment of the beginning and ending of *tithis*, *nakshatras* and *yōgas*, with greater accuracy than can be obtained by the use of Table X, *Indian Calendar*, or Table LXX (*above*, Vol. XVI, p. 216), where the time-equivalent of the unit, respectively, is given only in hours and minutes. My general working Tables for several of the Hindu astronomical *Siddhāntas* already published yield results, stated in measurement by 10,000ths of the circle, with an accuracy extending to four places of decimals, and the following Table enables the result to be translated into time down to a fraction of a second. It may be used for all astronomical authorities.

*The tithi-index unit.*

The *tithi*-unit is  $\frac{1}{10,000}$ th of a mean lunation. The mean lunation, according to the *Ārya*- and *Sūrya-Siddhāntas*, occupies  $29^d 12^h 44^m 2^s.79$ . The unit, or 10,000th part of this, is  $4^m.2524046$ , or  $4^m 15^s.144279$ .

*The nakshatra-index unit.*

The moon's *nakshatra*, or her position in the heavens, mean or true, is found by adding the *tithi*-index,  $a$  or  $t$ , to the index of the sun's longitude,  $s$ , mean or true. Both these values are found in the ordinary course of calculation for a date.

The mean *nakshatra*-value  $n = 10,000$  is reached in  $27^d 7^h 43^m 12^s.3$ . In this period the sun's mean motion amounts, in 10,000ths of circle measurement, to 748.0087 (*Table XLIV above* (Vol. XIV)) and the moon's mean distance from mean sun increases (*Table LIV A, B* (Vol. XV)) to 9251.9913. Total 10,000.

$27^d 7^h 43^m 12^s.3 = 39343^m.205$ , and this divided by 10,000 fixes the time-equivalent of the *nakshatra*-unit as  $3^m.9343205$ , or  $3^m 56^s.05923$ .

*The yōga-index unit.*

Similarly the *yōga-chakra* is estimated by the *Sūrya-Siddhānta* (*Indian Calendar*, p. 62, § 113) as occupying 36605.116 minutes of time, or  $25^d 10^h 5^m 6^s.96$ .<sup>1</sup> The *yōga*-unit therefore is  $3^m.6605116$ , or  $3^m 39^s.6307$ .

<sup>1</sup> The *yōga* formula is  $y = s$  (sun's long.) +  $n$  (moon's *nakshatra*), and, since  $n = s + a$ ,  $y = 2s + a$ . In the period noted it will be found by calculation, using Table XLIV (*above*, Vol. XIV), that the mean sun  $s$  arrives, in 10,000ths of circle measurement, at long. 695.9511; and by using Table LXIV (Vol. XVI) that in the same period the moon has increased her distance from mean sun ( $a$ ) by 8608.0964. Twice  $s = 1391.9022$ , and this + 8608.0964 (the value of  $a$ ) = 9999.9986, practically 10,000 exactly. Table LXIV was prepared according to the *First Ārya-Siddhānta*. Using *Siddhānta-Śirōmaṇi* and *Brahma-Siddhānta* estimates (*Table LIV*) the total amounts to 10,000.0015, I have as yet no similar Table according to *Sūrya-Siddhānta* requirements; but from what has been said it may be assumed that its estimate of the time occupied by one *yōga-chakra* (= 10,000) is correct.

TABLE XCIV-A.

TIME-EQUIVALENTS.

TITHI-INDEX UNITS.

(" Arg." = *a* or *t*.)

Arg.	H.	M.	S.	Arg.	H.	M.	S.	Arg.	H.	M.	S.	Arg.	H.	M.	S.
1	0	4	15.14	30	2	7	34.33	59	4	10	53.51	88	6	14	12.70
2	0	8	30.29	31	2	11	40.47	60	4	15	8.7	89	6	18	27.84
3	0	12	45.43	32	2	16	4.62	61	4	19	23.80	90	6	22	42.99
4	0	17	0.58	33	2	20	19.76	62	4	23	38.95	91	6	26	58.13
5	0	21	15.72	34	2	24	34.91	63	4	27	54.09	92	6	31	13.27
6	0	25	30.87	35	2	28	50.05	64	4	32	9.23	93	6	35	28.42
7	0	29	46.01	36	2	33	5.19	65	4	36	24.38	94	6	39	43.56
8	0	34	1.15	37	2	37	20.34	66	4	40	39.52	95	6	43	58.71
9	0	38	16.30	38	2	41	35.48	67	4	44	54.67	96	6	48	13.85
10	0	42	31.44	39	2	45	50.63	68	4	49	9.81	97	6	52	29.00
11	0	46	46.59	40	2	50	5.77	69	4	53	24.96	98	6	56	44.14
12	0	51	1.73	41	2	54	20.92	70	4	57	40.10	99	7	0	59.28
13	0	55	16.88	42	2	58	36.06	71	5	1	55.24	100	7	5	14.43
14	0	59	32.02	43	3	2	51.20	72	5	6	10.39	200	14	10	28.86
15	1	3	47.16	44	3	7	6.35	73	5	10	25.53	300	21	15	43.28
16	1	8	2.31	45	3	11	21.49	74	5	14	40.68	400	28	20	57.71
17	1	12	17.45	46	3	15	36.64	75	5	18	55.82	500	35	26	12.14
18	1	16	32.60	47	3	19	51.78	76	5	23	10.97	600	42	31	26.57
19	1	20	47.74	48	3	24	6.93	77	5	27	26.11	700	49	36	41.00
20	1	25	2.29	49	3	28	22.07	78	5	31	41.25	800	56	41	55.42
21	1	29	18.03	50	3	32	37.21	79	5	35	56.40	900	63	47	9.85
22	1	33	33.17	51	3	36	52.36	80	5	40	11.54	1000	70	52	24.28
23	1	37	48.32	52	3	41	7.50	81	5	44	26.69				
24	1	42	3.46	53	3	45	22.65	82	5	48	41.83				
25	1	46	18.61	54	3	49	37.79	83	5	52	56.98				
26	1	50	33.75	55	3	53	52.94	84	5	57	12.20				
27	1	54	48.90	56	3	58	8.08	85	6	1	27.28				
28	1	59	4.04	57	4	2	23.22	86	6	5	42.41				
29	2	3	19.18	58	4	6	38.37	87	6	9	57.55				



TABLE XCIV-B.

TIME-EQUIVALENTS.

DECIMALS OF TITHI-INDEX UNITS.

First 2 decimals.	M. S.	First 2 decimals.	M. S.	First 2 decimals.	M. S.	3rd and 4th decimals.	S.	3rd and 4th decimals.	S.	3rd and 4th decimals.	S.
·01	0 2·55	·34	1 26·75	·67	2 50·95	·0001	0·03	·0034	0·87	·0067	1·71
·02	0 5·10	·35	1 29·30	·68	2 53·50	·0002	0·05	·0035	0·89	·0068	1·73
·03	0 7·65	·36	1 31·85	·69	2 56·05	·0003	0·08	·0036	0·92	·0069	1·76
·04	0 10·21	·37	1 34·40	·70	2 58·60	·0004	0·10	·0037	0·94	·0070	1·79
·05	0 12·76	·38	1 36·95	·71	3 1·15	·0005	0·13	·0038	0·97	·0071	1·81
·06	0 15·31	·39	1 39·51	·72	3 3·70	·0006	0·15	·0039	1·00	·0072	1·84
·07	0 17·86	·40	1 42·06	·73	3 6·26	·0007	0·18	·0040	1·02	·0073	1·86
·08	0 20·41	·41	1 44·61	·74	3 8·81	·0008	0·20	·0041	1·05	·0074	1·89
·09	0 22·96	·42	1 47·16	·75	3 11·36	·0009	0·23	·0042	1·07	·0075	1·91
·10	0 25·51	·43	1 49·71	·76	3 13·91	·0010	0·26	·0043	1·10	·0076	1·94
·11	0 28·07	·44	1 52·26	·77	3 16·46	·0011	0·28	·0044	1·12	·0077	1·96
·12	0 30·62	·45	1 54·81	·78	3 19·01	·0012	0·31	·0045	1·15	·0078	1·99
·13	0 33·17	·46	1 57·37	·79	3 21·56	·0013	0·33	·0046	1·17	·0079	2·02
·14	0 35·72	·47	1 59·92	·80	3 24·12	·0014	0·36	·0047	1·20	·0080	2·04
·15	0 38·27	·48	2 2·47	·81	3 26·67	·0015	0·38	·0048	1·22	·0081	2·07
·16	0 40·82	·49	2 5·02	·82	3 29·22	·0016	0·41	·0049	1·25	·0082	2·09
·17	0 43·37	·50	2 7·57	·83	3 31·78	·0017	0·43	·0050	1·28	·0083	2·12
·18	0 45·93	·51	2 10·12	·84	3 34·32	·0018	0·46	·0051	1·30	·0084	2·14
·19	0 48·48	·52	2 12·68	·85	3 36·87	·0019	0·48	·0052	1·33	·0085	2·17
·20	0 51·03	·53	2 15·23	·86	3 39·42	·0020	0·51	·0053	1·35	·0086	2·19
·21	0 53·58	·54	2 17·78	·87	3 41·98	·0021	0·54	·0054	1·38	·0087	2·22
·22	0 56·13	·55	2 20·33	·88	3 44·53	·0022	0·56	·0055	1·40	·0088	2·25
·23	0 58·68	·56	2 22·88	·89	3 47·08	·0023	0·59	·0056	1·43	·0089	2·27
·24	0 61·23	·57	2 25·43	·90	3 49·63	·0024	0·61	·0057	1·45	·0090	2·30
·25	1 3·79	·58	2 27·98	·91	3 52·18	·0025	0·64	·0058	1·48	·0091	2·32
·26	1 6·34	·59	2 30·54	·92	3 54·73	·0026	0·66	·0059	1·51	·0092	2·35
·27	1 8·89	·60	2 33·09	·93	3 57·28	·0027	0·69	·0060	1·53	·0093	2·37
·28	1 11·44	·61	2 35·64	·94	3 59·84	·0028	0·71	·0061	1·56	·0094	2·40
·29	1 13·99	·62	2 38·19	·95	4 2·39	·0029	0·74	·0062	1·58	·0095	2·42
·30	1 16·54	·63	2 40·74	·96	4 4·94	·0030	0·77	·0063	1·61	·0096	2·45
·31	1 19·09	·64	2 43·29	·97	4 7·49	·0031	0·79	·0064	1·63	·0097	2·47
·32	1 21·65	·65	2 45·84	·98	4 10·04	·0032	0·82	·0065	1·66	·0098	2·50
·33	1 24·20	·66	2 48·40	·99	4 12·59	·0033	0·84	·0066	1·68	·0099	2·52

TABLE XCIV-C.

TIME-EQUIVALENTS.

NAKSHATRA-INDEX UNITS.

Arg.	H. M. S.	Arg.	H. M. S.	Arg.	H. M. S.	Arg.	H. M. S.
1	0 3 56.06	31	2 1 57.84	61	3 59 50.61	91	5 58 1.30
2	0 7 52.12	32	2 5 53.90	62	4 3 55.67	92	6 1 57.45
3	0 11 48.18	33	2 9 49.95	63	4 7 51.73	93	6 5 53.51
4	0 15 44.24	34	2 13 46.01	64	4 11 47.79	94	6 9 49.57
5	0 19 40.30	35	2 17 42.07	65	4 15 43.85	95	6 13 45.63
6	0 23 36.36	36	2 21 38.13	66	4 19 39.91	96	6 17 41.69
7	0 27 32.41	37	2 25 34.19	67	4 23 35.97	97	6 21 37.75
8	0 31 28.47	38	2 29 30.25	68	4 27 32.03	98	6 25 33.80
9	0 35 24.53	39	2 33 26.31	69	4 31 28.09	99	6 29 29.86
10	0 39 20.59	40	2 37 22.37	70	4 35 24.15	100	6 33 25.92
11	0 43 16.65	41	2 41 18.43	71	4 39 20.21	200	13 6 51.85
12	0 47 12.71	42	2 45 14.49	72	4 43 16.26	300	19 40 17.78
13	0 51 8.77	43	2 49 10.55	73	4 47 12.32		
14	0 55 4.83	44	2 53 6.61	74	4 51 8.38		
15	0 59 0.89	45	2 57 2.67	75	4 55 4.44		
16	1 2 56.95	46	3 0 58.72	76	4 59 0.50		
17	1 6 53.01	47	3 4 54.78	77	5 2 56.56		
18	1 10 49.07	48	3 8 50.84	78	5 6 52.62		
19	1 14 45.13	49	3 12 46.90	79	5 10 48.68		
20	1 18 41.18	50	3 16 42.96	80	5 14 44.74		
21	1 22 37.24	51	3 20 39.02	81	5 18 40.80		
22	1 26 33.30	52	3 24 35.08	82	5 22 36.86		
23	1 30 29.36	53	3 28 31.14	83	5 26 32.92		
24	1 34 25.42	54	3 32 27.20	84	5 30 28.98		
25	1 38 21.48	55	3 36 23.26	85	5 34 25.03		
26	1 42 17.54	56	3 40 19.32	86	5 38 21.09		
27	1 46 13.60	57	3 44 15.38	87	5 42 17.15		
28	1 50 9.66	58	3 48 11.44	88	5 46 13.21		
29	1 54 5.72	59	3 52 7.49	89	5 50 9.27		
30	1 58 1.78	60	3 56 3.55	90	5 54 5.33		



TABLE XCIV-D.

TIME-EQUIVALENTS,

DECIMALS OF NAKSHATRA-INDEX UNITS.

First 2 decimals.	M.	S.	First 2 decimals.	M.	S.	First 2 decimals.	M.	S.	3rd and 4th decimals.	S.	3rd and 4th decimals.	S.	3rd and 4th decimals.	S.
·01	0	2·36	·34	1	20·26	·67	2	38·16	·0001	0·02	·0034	0·80	·0067	1·58
·02	0	4·72	·35	1	22·62	·68	2	40·52	·0002	0·05	·0035	0·83	·0068	1·61
·03	0	7·08	·36	1	24·98	·69	2	42·88	·0003	0·07	·0036	0·85	·0069	1·63
·04	0	9·44	·37	1	27·34	·70	2	45·24	·0004	0·09	·0037	0·87	·0070	1·65
·05	0	11·80	·38	1	29·70	·71	2	47·60	·0005	0·12	·0038	0·90	·0071	1·68
·06	0	14·16	·39	1	32·06	·72	2	49·96	·0006	0·14	·0039	0·92	·0072	1·70
·07	0	16·52	·40	1	34·42	·73	2	52·32	·0007	0·17	·0040	0·94	·0073	1·72
·08	0	18·88	·41	1	36·78	·74	2	54·68	·0008	0·19	·0041	0·97	·0074	1·75
·09	0	21·25	·42	1	39·14	·75	2	57·04	·0009	0·21	·0042	0·99	·0075	1·77
·10	0	23·61	·43	1	41·51	·76	2	59·40	·0010	0·24	·0043	1·02	·0076	1·79
·11	0	25·97	·44	1	43·87	·77	3	1·77	·0011	0·26	·0044	1·04	·0077	1·82
·12	0	28·33	·45	1	46·23	·78	3	4·13	·0012	0·28	·0045	1·06	·0078	1·84
·13	0	30·69	·46	1	48·59	·79	3	6·49	·0013	0·31	·0046	1·09	·0079	1·86
·14	0	33·05	·47	1	50·95	·80	3	8·85	·0014	0·33	·0047	1·11	·0080	1·89
·15	0	35·41	·48	1	53·31	·81	3	11·21	·0015	0·35	·0048	1·13	·0081	1·91
·16	0	37·77	·49	1	55·67	·82	3	13·57	·0016	0·38	·0049	1·16	·0082	1·94
·17	0	40·13	·50	1	58·03	·83	3	15·93	·0017	0·40	·0050	1·18	·0083	1·96
·18	0	42·49	·51	2	0·39	·84	3	18·29	·0018	0·42	·0051	1·20	·0084	1·98
·19	0	44·85	·52	2	2·75	·85	3	20·65	·0019	0·45	·0052	1·23	·0085	2·01
·20	0	47·21	·53	2	5·11	·86	3	23·01	·0020	0·47	·0053	1·25	·0086	2·03
·21	0	49·57	·54	2	7·47	·87	3	25·37	·0021	0·50	·0054	1·27	·0087	2·05
·22	0	51·93	·55	2	9·83	·88	3	27·73	·0022	0·52	·0055	1·30	·0088	2·08
·23	0	54·29	·56	2	12·19	·89	3	30·09	·0023	0·54	·0056	1·32	·0089	2·10
·24	0	56·65	·57	2	14·55	·90	3	32·45	·0024	0·57	·0057	1·35	·0090	2·12
·25	0	59·01	·58	2	16·91	·91	3	34·81	·0025	0·59	·0058	1·37	·0091	2·15
·26	1	1·38	·59	2	19·28	·92	3	37·17	·0026	0·61	·0059	1·39	·0092	2·17
·27	1	3·74	·60	2	21·64	·93	3	39·54	·0027	0·64	·0060	1·42	·0093	2·20
·28	1	6·10	·61	2	24·00	·94	3	41·90	·0028	0·66	·0061	1·44	·0094	2·22
·29	1	8·46	·62	2	26·36	·95	3	44·26	·0029	0·68	·0062	1·46	·0095	2·24
·30	1	10·82	·63	2	28·72	·96	3	46·62	·0030	0·71	·0063	1·49	·0096	2·27
·31	1	13·18	·64	2	31·08	·97	3	48·98	·0031	0·73	·0064	1·51	·0097	2·29
·32	1	15·54	·65	2	33·44	·98	3	51·34	·0032	0·76	·0065	1·53	·0098	2·31
·33	1	17·90	·66	2	35·80	·99	3	53·70	·0033	0·78	·0066	1·56	·0099	2·34

TABLE XCIV-E.

TIME-EQUIVALENTS.

YOGA-INDEX UNITS.

Arg.	H.	M.	S.	Arg.	H.	M.	S.	Arg.	H.	M.	S.	Arg.	H.	M.	S.
1	0	3	39.63	31	1	53	28.55	61	3	43	17.47	91	5	33	6.39
2	0	7	19.26	32	1	57	8.18	62	3	46	57.10	92	5	36	46.02
3	0	10	58.89	33	2	0	47.81	63	3	50	36.73	93	5	40	25.65
4	0	14	38.52	34	2	4	27.44	64	3	54	16.86	94	5	44	5.29
5	0	18	18.15	35	2	8	7.07	65	3	57	56.00	95	5	47	44.92
6	0	21	57.78	36	2	11	46.71	66	4	1	35.63	96	5	51	24.55
7	0	25	37.41	37	2	15	26.34	67	4	5	15.26	97	5	55	4.18
8	0	29	17.05	38	2	19	5.97	68	4	8	54.89	98	5	58	43.81
9	0	32	56.68	39	2	22	45.60	69	4	12	34.52	99	6	2	23.44
10	0	36	36.31	40	2	26	25.23	70	4	16	14.15	100	6	6	3.07
11	0	40	15.94	41	2	30	4.86	71	4	19	53.78	200	12	12	6.14
12	0	43	55.57	42	2	33	44.49	72	4	23	33.41	300	18	18	9.21
13	0	47	35.20	43	2	37	24.12	73	4	27	13.04				
14	0	51	14.83	44	2	41	3.75	74	4	30	52.67				
15	0	54	54.46	45	2	44	43.38	75	4	34	32.30				
16	0	58	34.09	46	2	48	23.01	76	4	38	11.93				
17	1	2	13.72	47	2	52	2.64	77	4	41	51.56				
18	1	5	53.35	48	2	55	42.27	78	4	45	31.19				
19	1	9	32.98	49	2	59	21.90	79	4	49	10.83				
20	1	13	12.61	50	3	3	1.53	80	4	52	50.46				
21	1	16	52.24	51	3	6	41.17	81	4	56	30.09				
22	1	20	31.88	52	3	10	20.80	82	5	0	9.72				
23	1	24	11.51	53	3	14	0.43	83	5	3	49.35				
24	1	27	51.14	54	3	17	40.06	84	5	7	28.98				
25	1	31	30.77	55	3	21	19.69	85	5	11	8.61				
26	1	35	10.40	56	3	24	59.32	86	5	14	48.24				
27	1	38	50.03	57	3	28	38.95	87	5	18	27.87				
28	1	42	29.66	58	3	32	18.58	88	5	22	7.50				
29	1	46	9.29	59	3	35	58.21	89	5	25	47.13				
30	1	49	48.92	60	3	39	37.84	90	5	29	26.76				

TABLE XCIV-F.

TIME-EQUIVALENTS.

DECIMALS OF YOGA-INDEX UNITS.

First 2 decimals.	M.	S.	First 2 decimals.	M.	S.	First 2 decimals.	M.	S.	3rd and 4th decimals.	S.	3rd and 4th decimals.	S.	3rd and 4th decimals.	S.
·01	0	2·20	·34	1	14·67	·67	2	27·15	·0001	0·02	·0034	0·75	·0067	1·47
·02	0	4·39	·35	1	16·87	·68	2	29·35	·0002	0·04	·0035	0·77	·0068	1·49
·03	0	6·59	·36	1	19·07	·69	2	31·55	·0003	0·07	·0036	0·79	·0069	1·52
·04	0	8·79	·37	1	21·26	·70	2	33·74	·0004	0·09	·0037	0·81	·0070	1·54
·05	0	10·98	·38	1	23·46	·71	2	35·94	·0005	0·11	·0038	0·83	·0071	1·56
·06	0	13·18	·39	1	25·66	·72	2	38·13	·0006	0·13	·0039	0·86	·0072	1·58
·07	0	15·37	·40	1	27·85	·73	2	40·33	·0007	0·15	·0040	0·88	·0073	1·60
·08	0	17·57	·41	1	30·05	·74	2	42·53	·0008	0·18	·0041	0·90	·0074	1·63
·09	0	19·77	·42	1	32·24	·75	2	44·72	·0009	0·20	·0042	0·92	·0075	1·65
·10	0	21·96	·43	1	34·44	·76	2	46·92	·0010	0·22	·0043	0·94	·0076	1·67
·11	0	24·16	·44	1	36·64	·77	2	49·12	·0011	0·24	·0044	0·97	·0077	1·69
·12	0	26·36	·45	1	38·83	·78	2	51·31	·0012	0·26	·0045	0·99	·0078	1·71
·13	0	28·55	·46	1	41·03	·79	2	53·51	·0013	0·29	·0046	1·01	·0079	1·74
·14	0	30·75	·47	1	43·23	·80	2	55·70	·0014	0·31	·0047	1·03	·0080	1·76
·15	0	32·94	·48	1	45·42	·81	2	57·90	·0015	0·33	·0048	1·05	·0081	1·78
·16	0	35·14	·49	1	47·62	·82	3	0·10	·0016	0·35	·0049	1·08	·0082	1·80
·17	0	37·34	·50	1	49·82	·83	3	2·29	·0017	0·37	·0050	1·10	·0083	1·82
·18	0	39·53	·51	1	52·01	·84	3	4·49	·0018	0·40	·0051	1·12	·0084	1·84
·19	0	41·73	·52	1	54·21	·85	3	6·69	·0019	0·42	·0052	1·14	·0085	1·87
·20	0	43·93	·53	1	56·40	·86	3	8·88	·0020	0·44	·0053	1·16	·0086	1·89
·21	0	46·12	·54	1	58·60	·87	3	11·08	·0021	0·46	·0054	1·19	·0087	1·91
·22	0	48·32	·55	2	0·80	·88	3	13·28	·0022	0·48	·0055	1·21	·0088	1·93
·23	0	50·52	·56	2	2·99	·89	3	15·47	·0023	0·51	·0056	1·23	·0089	1·95
·24	0	52·71	·57	2	5·19	·90	3	17·67	·0024	0·53	·0057	1·25	·0090	1·98
·25	0	54·91	·58	2	7·39	·91	3	19·86	·0025	0·55	·0058	1·27	·0091	2·00
·26	0	57·10	·59	2	9·58	·92	3	22·06	·0026	0·57	·0059	1·30	·0092	2·02
·27	0	59·30	·60	2	11·78	·93	3	24·26	·0027	0·59	·0060	1·32	·0093	2·04
·28	1	1·50	·61	2	13·97	·94	3	26·45	·0028	0·61	·0061	1·34	·0094	2·06
·29	1	3·69	·62	2	16·17	·95	3	28·65	·0029	0·64	·0062	1·36	·0095	2·09
·30	1	5·89	·63	2	18·37	·96	3	30·85	·0030	0·66	·0063	1·38	·0096	2·11
·31	1	8·09	·64	2	20·58	·97	3	33·04	·0031	0·68	·0064	1·41	·0097	2·13
·32	1	10·28	·65	2	22·76	·98	3	35·24	·0032	0·70	·0065	1·43	·0098	2·15
·33	1	12·48	·66	2	24·96	·99	3	37·43	·0033	0·72	·0066	1·45	·0099	2·17

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University Library, ditto.	Imperial Archaeological Society, ditto.
University Library, Cambridge.	Royal Academy of Sciences, Amsterdam.
Bodleian Library, Oxford.	Royal Society of Finland, c/o Dr. Donner, University, Helsingfors.
University Library, Owen's College, Manchester.	Bureau of Ethnology, Washington, United States, America.
University Library, Edinburgh.	University Library, Melbourne, Australia.
University Library, Glasgow.	University Library, Sydney, N. S. Wales.
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University Library, Christiania, Norway.	Royal Library, Berlin, Germany.
University Library, Upsala, Sweden.	Imperial Academy of Berlin, Germany.
Vittorio Emanuele Library, Rome.	University Library, Tubingen, Germany.
University Library, Leiden, Holland.	University Library, Bonn, Germany.
Royal Society, Edinburgh.	Deutsche Morgenlandische Gesellschaft, Halle a S, Germany.
Royal Asiatic Society, No. 22, Albemarle Street, London.	Royal Academy of Hungary, Buda-Pest.
Philological Society, University College, Gower Street, London, W.C.	Imperial Academy of Science, Vienna.
Anthropological Institute, 8, Hanover Square, London, W.	Universitäts Bibliothek, Gießen Heesen.
Indian Institute, Oxford.	Library of the Oriental Department of the British Museum, London, W.C.
Société Asiatique, c/o E. Leroux, 28, Rue Bonaparte, Paris.	National Museum, Copenhagen, Denmark.
Oriental Society, The Hague, Holland.	University Library, Prague.
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## No. 16.—VELVIKUDI GRANT OF NEDUNJADAIYAN: THE THIRD YEAR OF REIGN.

By H. KRISHNA SASTRI, B.A., OOTACAMUND.

Sixteen years ago, when Mr. Venkayya in his Epigraphical Report for 1908 (pp. 50 ff) discussed with great ability the contents of the fourth of the early Pāṇḍya copper-plates discovered till then, he remarked: "The originals of these plates have not been traced. The following account of them is based on a preliminary study of two excellent impressions belonging probably to Sir Walter Elliot's collections kindly placed at my disposal by Dr. Fleet in 1893." These duplicate impressions of the grant now in the editor's possession, are marked by Dr. Fleet "I-n-11" and must have been originally intended for publication in the *Indian Antiquary*. Mr. Venkayya, however, could not at once prepare an article on them, as the early Pāṇḍya chronology was then obscure. About the end of 1915, Dr. L. D. Barnett of the British Museum, London, sent me impressions of a copper-plate inscription preserved in that institution and wished to know if it had been published and what its contents were. Curiously enough, it happened that these were the very same impressions of which Mr. Venkayya was unable to trace the originals. I wrote back to Dr. Barnett informing that the plates contained on them an important Pāṇḍya grant which had been already noticed in the Epigraphical Report for 1908 and asked for certain details about them. He says briefly: "There is no seal on the grant: the plates are held by a thin copper-ring, which has been cut." The detailed measurement of the plates and their number, consequently, remain to be what has been described by Mr. Venkayya, viz., these are **ten copper-plates**, of which the first seven are numbered on the left margin on their inner sides and the impressions measure  $10\frac{1}{2}$ " by  $3\frac{1}{2}$ ", the first and the last plates being written only on their inner sides.

The writing on the plates is both in the Grantha and Vaṭṭeḷuttu characters, the first being used in Sanskrit passages (ll. 1 to 30 and ll. 142 to 150) and in all Sanskrit words that occur in the Tamil portion of the inscription. The Grantha characters and orthography do not call for any special remarks except that in almost all conjunct consonants, where they are written one below the other, the upper or the first member of the compound letter is marked by the *virāma*, following evidently the Tamil method of writing. The same influence is also observed in the pronunciation and spelling of Sanskrit words, e.g., *pārakan* and *purōkan* (l. 99), *kritāpatānan* (l. 100) and *kaṇḍakanishṭuran* (l. 100 f.). In one particular case, the purely Tamil word *antanar* (l. 61) is written partly in Grantha and partly in Tamil. The use of *tsha* for *ksha* (l. 144), *uma* for *tma*, *dma* for *lma* and *ri* for *ṛi* or *ru*, in compound letters, also shows the same influence. Consonants coming after *r* are always doubled except in °मर्त्त° in line 14 and °तिर्त्त° in line 17. The *upadhmanīya* and *jihvāmālīya* symbols are used throughout in their proper places. The *anusvāra* used in *-varggaṇ-yulhi* (l. 14) and in *saṁyati* (l. 28) is worth noticing. It denotes the *anunāsika* forms of *yu* and *ya* and is shaped in the form of a crescent with a dot in it placed over the heads of these letters. In his commentary on Pāṇini VIII-4-59 Bhaṭṭoji-Dikshita remarks that the *anusvāra* in such cases changes itself optionally into the nasal form of *ya*.

The Vaṭṭeḷuttu character so called, is an oblique form of Tamil (excepting certain letters) with a few angularities which on careful scrutiny could be easily accounted for. The only four letters in the alphabet whose form cannot be explained with reference to Tamil are the vowel letters *i* (உ) (see *irakki*° in line 40), *ai* (ஈ) (see *uimpadiṇṇavar* in line 135) and the more frequently occurring *ṇa* (ன) and *po* (ஔ). In the matter of the Vaṭṭeḷuttu palaeography of this inscription it might be noted (1) that the *pulli* is correctly inserted throughout the inscription except in a few cases, e.g., *vōḷḷi*= (l. 31), *ottirattum*= (l. 47 f.), *aṇṇam* (*ibid.*), *-avaṇku* (l. 46) and *vēḷṇi*° (l. 37); (2) that it is unnecessarily inserted over the vocalic *e* and *o* and even



over the initial vowel letter *o*, as in *monṇum*, *chchor*, (l. 34), *koṛkai*, *korraṇ*, *koṇḍa* (l. 35), *dēy* (l. 38), *goḷi* (l. 43), *neṇṇuni* (l. 45), *rrennan* (l. 46), *kkolai*, *chcheḷiyaṇ* (l. 50), *olḡāda* (l. 108 f.), *oḷḡōda* (l. 109), *poḷil* (l. 65), *pporu* (l. 63), *poruṭṭāga* (l. 71); and (3) that it is omitted in a few cases. The shaping of the long *ā*-sign in *rā* (l. 119), *nū* (l. 107) and *ḷā* (l. 76) and the use of the Tamil *aḷabeḍai* (Skt. *pluta*) in *kkolṭiya* in line 97 for the purpose of completing the metrical quantity are worthy of notice. This *aḷabeḍai* according to the Tamil grammarians is to be used in (i) selling articles, (ii) calling people at a distance and (iii) in filling up the metrical quantity in a verse. Pāṇini omits (i) and (iii). While in Sanskrit only vowels have *pluta*, in Tamil the consonants (nasals and sibilants) are also thus lengthened.

The orthographical peculiarities such as the insertion of *y* after consonants with the *e*-sign (ll. 94, 97 f.); the substitution of the vowel *i* for *yi* (ll. 66, 115, 118, 140); the non-observance of euphonic rules in adding the suffixes *um* (l. 93), *uḷ* (l. 59), *in* (l. 93) and *oḍu* (l. 46 f.); the want of distinction between the long and the short *i* (except in the single instance *nīrōḍ=aiṭṭi* in line 117) and between the long and the short *o*, are noteworthy. *Pūli-ār* (l. 58), *°maiṭṭi-iruppai* (l. 121 f.), *chey-iḍai* (l. 122), *maṇi-imai* (l. 81), *kkali-araiṣaṇ* (l. 90), *kurai-uṟu* and *nirai-uṟu* (l. 102) are also cases of the omission of *sandhi*. *Paramēśvaraṇār-Vēḷvikuḍi* (l. 110) for *°nāl Vēḷvikuḍi* and *veḷirpaṭṭu* for *veḷippaṭṭu* (ll. 41, 49, 52, 88) are evidently wrong forms; *sekkuni* (l. 120) for *seykkuni* and *aimpudiṇṇar* (l. 135) for *aimpadiṇṇar* may be regarded as colloquial usages: similar also may be the use of *kuḍu* (l. 125) for *koḍu*. The form *iydu* (l. 152) for *idu* through the intermediate form *ihdu* probably gives us the clue for the correct pronunciation of the Tamil *āydam*-sign which is now pronounced as the *jīhvāmūliya* and the *upadhmānīya* forms of the *visarga*. The metre used in the Tamil portion of the inscription is the *Agaval* while in the Sanskrit portion the metres employed are: *Vamśastha* (vv. 1, 12), *Anuṣṭubh* (vv. 2, 17, 20 and 23), *Vasantatilakā* (vv. 3, 9 and 19), *Śārdūlavikṛtita* (vv. 4, 5, 6 and 10), *Mālabhā-rinī*<sup>1</sup> (vv. 7, 8, 15 and 16), *Upēndravajrā* (vv. 11, 14), *Drutavilambita* (v. 13) and *Āryā* (v. 18).

Palaeographically, the Grantha characters of the Vēḷvikuḍi grant differ from those of the Madras Museum plates of Jaṭilavarman,<sup>2</sup> although for reasons stated in the sequel, both of these have to be attributed to the period of the same king Neḍuṇṇjaḍaiyaṇ. The difference is distinctly observed in the formation of the *serif* which in the first case is a plain horizontal line, whereas in the second, it makes a loop with the letter. The bottoms of letters like *ma* and *ba* and the top of the vowel *i* are bent at the base line in the Vēḷvikuḍi grant, whereas in the Madras Museum plates they either form one uniform curve, or are straight; the *upadhmānīya* and the *jīhvāmūliya* signs are not used at all in the Madras Museum plates. The punctuation marks at the end of verses in the Vēḷvikuḍi grant are the *piḷḷaiyār tūḷi* (௧) whereas in the Madras Museum plates they are denoted by the so-called *ōm* symbol (ॐ)<sup>3</sup>; *anuvāras* are more frequent in the Madras Museum plates than nasal conjuncts. The Vēḷvikuḍi grant, in numbering the plates, uses the Grantha letter-symbols, whereas the Madras Museum plates use the usual Tamil numerals. In the Vaṭṭeḷuttu alphabet employed, however, the two grants do not seem to differ much, except in the case of the letter *ya* which in the Vēḷvikuḍi grant as in the Āpaimalai inscription,<sup>4</sup> is uniseptate, while in the Madras Museum plates it is bipartite. This single difference in the characters of the Tamil portion which is the earlier, and perhaps constitutes the grant proper in both, need not show that the two grants must belong to different periods. The

<sup>1</sup> The scheme of this verse as given in the *Cāḷandōmaṇḍari* is:—

निषमि ससजा यदा गुह चित् सभरा येन तु मालभारिषीयम् ॥

<sup>2</sup> *Ind. Ant.*, Vol. XXII, with Plate, pp. 57 ff.

<sup>3</sup> The latest interpretation of this symbol is *siddhāḥ*, 'success.'

<sup>4</sup> Above, Vol. VIII, p. 317 ff.

insertion of the Grantha portion in the Velvikudi grant might have been somewhat earlier than that in the Madras Museum plates.

The Sanskrit portion of the record commences with an invocation to Śiva (verse 1) and goes on to refer in general terms to the Pāṇḍya kings and their race, of which the family priest was the sage Agastya<sup>1</sup> (vv. 2 and 3). At the end of the previous *Kalpa*, it is stated, there was a powerful king named Pāṇḍya who was ruling at the entrance into the sea (i.e., on the coast of a gulf) and that the very same king at the beginning of the current *Kalpa* was born as Budha, the son of the Moon (v. 4). His son was Purūravas; and in his family, whose crest was a pair of fish, which shared with Indra, the lord of gods, half of his throne and his necklucio and was a party in the purāṇic churning of the milk-ocean, was born king Māṇavarman, a patron of the learned (vv. 6 and 8). His son was Raṇadhira (v. 9) and his son Māṇavarman II Rājasimha (vv. 10 and 11) at whose presence the king Pallavamalla ran away from the battle-field (v. 12). This king Rājasimha married a Malava princess and by her begot king Jaṭila (v. 14), who was also called Parāntaka (v. 17). Thus ends the short Sanskrit eulogy (*prasaṣti*) which was composed by the *Sarvakraṭuyājīn* Varōdaya-Bhaṭṭa (l. 30).

We may now pass on to what the bigger and the more important part of the record, the Tamil *prasaṣti*, has to say, with the remark that the Sanskrit portion, by its brief notice and the very meagre historical material which it supplies in the form of a general introduction, could not have been contemporaneous with the Tamil portion. It was evidently added only later to give a dignified appearance to the grant proper which is in Tamil. This Tamil portion begins with the mention of a past event, namely, that the *kēḷvi*-Brahmans<sup>2</sup> of Pāṇḍūr-Kūrṇam seeing that one of their own community, named Naṅkorraṇ, the headman of Korṅkai, who had contemplated the performance of a Vedic sacrifice, with the help of the ruling Pāṇḍya king (*ādhirāja*) Palyāgamudukuḍumi Peruvaḷudi, placed his petition before the king and themselves standing in front of the sacrificial hall, blessed that spot to be thenceforth (?) called Velvikudi.<sup>3</sup> The king granted the village to Naṅkorraṇ and it was thus that the village came to be enjoyed by the latter for a long time. After this, a powerful Kali king, named Kaḷabhraṇ, conquering many *ādhirājas*, brought under subjection the whole Pāṇḍya country including, of course the village Velvikudi which was then resumed. Some time elapsed and after this sprang forth a powerful Pāṇḍya, named Kaḍuṅgōṇ, who reconquered the whole land from his enemies. His son was Avanichūḷamaṇi Māṇavarman. His son was Śeḷiyaṇ Vāṇavaṇ Śēndan and his son, Arikēsari Asamasamaṇi Māṇavarman, who won a battle at Pēli against his enemies; defeated a certain Vilvēli at Nelvēli; destroyed the Paravas and the people of Kuṟu-nāḍu; won a victory at Śeṇṇilam, conquered the Kēraḷa several times at the strongly fortified town of Puliyūr; made many gifts and protected the Brāhmaṇas and the invalids. His son was Śaḍaiyaṇ, the lord of the Kōṅga country (Kōṅgarkōmāṇ), who was possessed of the titles Teṇṇa-Vāṇavaṇ, Śēmbiyaṇ, Śōḷaṇ and Madura-Karunāṭakan.<sup>4</sup> won a battle at Marudūr,

<sup>1</sup> Agastya is also supposed to have been the founder of the Tamil language and the author of the Tamil grammar *Aṇṭṭiyam* mentioned in Tamil literature. He is referred to as the family priest of the Pāṇḍyas also in Kālidāsa's *Raghurāmā*, VI. 61, and in the commentary on *Iṟaiyaṇār Agapporuḷ*.

<sup>2</sup> *Kēḷvi-andaṇālar* may also mean 'learned Brāhmaṇas'. But *kēḷvi* seems to be used here in a technical sense. In inscriptions we find the word applied to a class of administrative officers whose business was to carry the applications of petitioners to the 'hearing' of the king. See also *Ep. Ind.* Vol. III, p. 69, foot-note 7.

<sup>3</sup> I.e., the village of the sacrifice. In the Tamil portion in l. 108 f. it is stated that the village had the name Velvikudi given to it by king Mudukuḍumi.

<sup>4</sup> The significance of this title is not apparent. Could it be that like Śēmbiyaṇ and Śōḷaṇ he could have acquired it by conquering the Western Chālukyas who were known as Karnāṭakas? But we know that these were too far away from the reach of the Pāṇḍyas. Another possible explanation is that the Pāṇḍyas might have intermarried with the Chālukyas and the issue of such an intermarriage might well be called 'the Sweet Karnāṭaka'! Again, the identification of the Kaḷabhra with Karnāṭa by Mr. Venkayya (see below p. 295) seems to gain in significance in considering the propriety of the title Madura-Karunāṭakan held by king Śaḍaiyaṇ.

defeated **Āyavēl** in battles at **Seṅgoḍi** and **Pudāṅkōḍu**, destroyed the **Mahārathas** at the big town (*Mahānagara*) of **Māṅgalapuram** and stamped the symbols of the bow; the tiger and the fish on the big mountain, viz., the Himalayas. This shows his supreme authority over the **Chēra**, **Chōla** and **Pāṇḍya** countries, whose symbols were the bow, the tiger and the fish, respectively. His son was **Tēr-Māraṇ** who routed his enemies at **Neḍuvayal**, **Kuṛumaḍai**, **Maṇṇi-Kuṛichohi**, **Tirumaṅgai**, **Pūvalūr** and **Koḍumbālūr**, defeated the **Pallava**<sup>1</sup> king and captured his elephants and horses in the battle of **Kuḷumbūr**, crushed his enemies at **Periyālūr** crossed the **Kāviri** (i.e., the river **Kāvēri**), subdued (the country of) **Māla-Koṅgam**, reached **Pāṇḍi-kKoḍumiḍi**, worshipped **Paśupati** (i.e., **Śiva**), contracted marriage relations with **Gaṅgarāja**<sup>2</sup> and renewed the fortifications of **Kūḍal**, **Vaṇṇi** and **Kōḷi**. His son was **Parāntaka Neḍuñjaḍaiyaṇ**, who drove the **Kāḍava** (i.e., the **Pallava**) into the forest, after defeating him in the battle of **Peṇṇāgaḍam** on the southern bank of the river **Kāviri** and won a battle at **Nāṭṭukkuṛumbu** driving away the **Āyavēl** and the **Kuṛumbas** to the forest. This king possessed a long list of *birudas* such as **Śrivarāṇ**, **Śiṇa-chChōḷaṇ**, **Puṇa-pPūliyaṇ**, etc., enumerated in *U.* 98 ff.

In the third year of the reign of this last mentioned king, a man having arrived at **Kūḍal** with a loud complaint, the king himself enquired into the matter with kind words and hearing from him how his village **Vēlvikuḍi** in **Pāṅaṇūr-kāṇṇam**, originally granted under that name by his ancestor, the great king (*Paramēśvaran*) **Palyāgamudukuḍumi Peruvaḷudi**, was resumed by the **Kuḷabhra** and had since then remained so even after the resumption of Government by the **Pāṇḍyas**, he ordered the applicant to produce the necessary evidence before the *nāḍu* to prove that the village was his from early times and thus to get it back. The complainant proved his claim accordingly and the king renewed the grant to the applicant **Kāmakkāṇi Narchiṅgaṇ**, the headman of **Koṛkai**. The *anatti* of the grant was **Madavikalāṇ Māraṅgāri alias Mūvēndamaṅgala-Ppēraraiyaṇ**, the crest-jewel of the **Vaidyakas** and a native of **Karavandepura**, and a favourite of the king of kings (i.e., the **Pāṇḍya** king **Neḍuñjaḍaiyaṇ**). It is stated of this **Māraṅgāri** that he fought bravely in the fight that ensued between the kings of the Eastern country (*Pūrva-rājar*) and **Vallabha** on the occasion when the daughter of **Gaṅgarāja** (the **Gaṅga** king) was procured for **Koṅgar-kōṇ**.

Ll. 134 to 141 repeat that the owner of this *brahmadēya* (viz., **Vēlvikuḍi**) was **Kāmakkāṇi Suvarāṇ-Siṅgaṇ**, the headman of **Koṛkai**, by which perhaps the **Narchiṅgaṇ**, just mentioned, must be referred to. The composer of the Tamil *praśasti* was the *Sēnāpati* **Ēnādi alias Śāttan Śāttan**. This brings us to the end of the Tamil portion. The next Sanskrit verse speaking of the *ājñapti* of the grant says that he was **Māṅgalarāja Madhurātara**, a **Vaidyaka** and a master of the *Śāstras*, a poet and an orator. Then follow four imprecatory verses which are expressly stated to be quoted from the **Vaishṇava-Dharma**. A Tamil prose passage coming after this says that the king himself ordered the engraving of this copper-plate grant and that the engraver was a certain **Yuddhakēsari Perumbaṇaikkāraṇ**.

In noticing these plates in his *Annual Report on Epigraphy* for 1908, pp. 50 ff., Mr. Venkayya has already made it clear how *Kalpa-kṣayaḍi* in v. 4 has to be understood with reference to the traditional account of the deluge<sup>3</sup> or tidal wave in the **Pāṇḍya** country and to the survival of a king of the old **Pāṇḍya** line "of the race of the Moon and in all respects corresponding," under the name **Budha**. Similarly also, the mythical boast of the **Pāṇḍya** kings to have engraved their crest on the top of the Himalayas and to have shared one-half of **Indra's** throne and worn the garland of the king of the gods, has been shown to occur frequently in the later **Pāṇḍya** inscriptions. **Palyāgamudukuḍumi-Peruvaḷudi** is a historically famous **Pāṇḍya** king in whose honour

<sup>1</sup> The name of this **Pallava** king, which begins with *Se*, is hopelessly damaged on the impression.

<sup>2</sup> Evidently the same mentioned in connection with the next king, his son **Neḍuñjaḍaiyaṇ**.

<sup>3</sup> Old Madura is supposed to have been washed away by the sea : see commentary on *Agapporu*, p. 4.

five poems are known to have been sung by three famous Śaṅgam<sup>1</sup> poets and included in the Tamil anthology called *Puraṇṇūru*. In one of these he is stated to have captured the extensive forts of his enemies and to have destroyed and ploughed their streets with a team of white-mouthed asses. This way of dealing with the conquered countries seems to be a very old one. Dr. S. Konow points out that there is a reference to it in the Hathigumpha inscription of Khāravela.<sup>2</sup> It is mentioned also in some inscriptions of the later Pāṇḍya king Māṇavarman Sundara-Pāṇḍya I. The Kaḷabhra occupation of the Madura country and the consequent interregnum are also noted by Mr. Venkayya with the remark that the Kaḷabhra may be the Kārṇāṭa. After the interregnum came Kaḍuṅgōṇ with whom the first academy (Śaṅgam) of Tamil poets is supposed to have come to an end. The list of the kings that followed Kaḍuṅgōṇ to the donor Neḍuñjaḍaiyaṇ is given in a genealogical table on p. 54 of the *Annual Report on Epigraphy* for 1908, together with further information supplied about them by two other sets of Pāṇḍya copper-plates<sup>3</sup> secured from Śiṅṅamaṇṇir. Mr. Venkayya thinks that Neḍuñjaḍaiyaṇ of the Vēlvikuḍi grant must be different from Neḍuñjaḍaiyaṇ of the Madras Museum plates published by him in the *Indian Antiquary*, not only on the strength of certain palaeographical differences already noted above but also on account of the different engravers who in the one case was Yuddhakēsari Pāṇḍiya-Pperumbaṇaikkāraṇ and in the other, Pāṇḍi-Pperumbaṇaikkāraṇ alias Arikēsari. He further identifies Neḍuñjaḍaiyaṇ of the Vēlvikuḍi plates with Māṇaṇjaḍaiyaṇ of the Āṇaimalai cave inscription; for, between these two there is not only palaeographical similarity, but also it happens that the *ājñapti* of the former is the prime minister mentioned in the latter, both being called Māraṅgāri Māvēndamaṅgalappēraṇaiyaṇ, members of the Vaidya (or Vaidyaka) family and natives of Karavandapura with the attributes *Maduratara* and *Kari*. Consequently, the two kings Neḍuñjaḍaiyaṇ and Māṇaṇjaḍaiyaṇ, who both bore the same surname Parāntaka, must be identical and the date of the Vēlvikuḍi grant must be about A.D. 769-70 which is the date of the Āṇaimalai inscription.

About the military achievements of Neḍuñjaḍaiyaṇ we learn from this inscription that he defeated the Kāḍava king at Peppāṇḍam on the southern bank of the Kāvēri river and drove the Āyavēl and the Kuṇṇabas in a battle fought at Nāṭṭukkuṇṇambu. Again, a statement made about the *ājñapti* of the grant in lines 126-129, adds that Māraṅgāri rendered valuable service to his master Neḍuñjaḍaiyaṇ by defeating a certain Vallabha at Veṇbai, on the occasion when the eastern kings secured the hand of the Gaṅga princess in marriage for Koṅgarkōṇ. Here Koṅgarkōṇ in order to suit the context, must be taken to be a surname of the Pāṇḍya king Neḍuñjaḍaiyaṇ himself. This is not improbable, inasmuch as his grandfather Śaḍaiyaṇ is also called in the inscription (Text, l. 70), Koṅgarkōmāṇ, and his father Tēr-māṇaṇ is stated to have contracted relationship with the Gaṅga king (Text, l. 84). This latter event perhaps refers to the occasion when Māraṅgāri achieved the success mentioned above.

In spite of what Mr. Venkayya thinks about the identity of the kings mentioned in the Vēlvikuḍi plates and the Madras Museum plates there are strong reasons to believe that both refer to the same king. For, the ruling king Parāntaka Neḍuñjaḍaiyaṇ and his *birudas* Paṇḍi-tavatsala, Virapurōga and Vikramapāruga occur in both. Further, the surname Śrīvaramaṅgala given to the granted village Vēlaṅḍuḍi in the Madras Museum plates makes it clear that the king must have also had the *biruda* 'Śrīvara' which we find actually given to him in the Vēlvikuḍi plates.<sup>4</sup> The special mention of Mūrti Eyinaṇ in l. 136 of the Vēlvikuḍi plates as

<sup>1</sup> According to tradition there were three Śaṅgams or old academies of Tamil Poets. The date of the last of these has been widely discussed. The latest pronouncement on the subject is that it must have come into existence some time after the 5th Century A. D.

<sup>2</sup> *Acta Orientalia*, Vol. I, Part I, p. 23f.

<sup>3</sup> These plates are under publication by me in the *Epigraphia Indica*.

<sup>4</sup> Mr. K. V. Subrahmanya Ayyar also supposes it to be so; vide his *Sketches of Ancient Dekkan*, pp. 103 ff.

one of the fifty Brāhmaṇa sub-doneses marks him out as an important personage. From the Ānaimalai inscriptions, we know that Eyinaṇ was an epithet or surname held by Māraṇ Eyinaṇ, the younger brother of Māraṅgāri himself. Perhaps Māraṇ Eyinaṇ and Mūrti Eyinaṇ were both younger brothers of Māraṅgāri. The *ajñapti* of the Madras Museum plates was Dhīrataran Mūrti Eyinaṇ, who was one of the *mahā-sāmantas* of the king. There is little doubt that Mūrti Eyinaṇ of our plates and Dhīrataran Mūrti Eyinaṇ of the Madras Museum plates are identical and that thus also the king Neḍuñjaḍaiyaṇ mentioned in both these sets of plates is one and the same. If this identification is accepted the two allied plates together supply the full list of the military exploits of Neḍuñjaḍaiyaṇ. By the third year of his reign (the date of the present grant) Neḍuñjaḍaiyaṇ must have subdued the Āyavēl and the Kuṟumbar and defeated the Pallavas south of the Kāviri; but before his 17th year (the date of the Madras Museum plates) he had carried his conquests right into the heart of the Koṅgu country and taken possession of it by defeating its king Adiyaṇ and his allies the Pallavas and the Kēraḷas. The conquest of the Koṅgu country and the desire to possess it seem to have been very strong with the Pāṇḍya kings. For, Śaḍaiyaṇ, the grandfather of Neḍuñjaḍaiyaṇ, held the title 'Lord of the Koṅgas' and his father Tēr-Māraṇ actually crossed the Kāviri, subjugated Maḷa-Koṅgam and had invaded that country even as far as Pāṇḍi-kKoḍumuḍi. Neḍuñjaḍaiyaṇ seems only to have followed in the footsteps of his ancestors in subduing the Koṅga-bhūmi, as far as the land of the Gaṅgas. The information that a Gaṅga princess was married into the Pāṇḍya family is not mentioned in any of the Gaṅga records of this period which falls into the reign of Śivamāra I (755 to 765 A.D.). The Vallabha or the Western Chalukya king who was defeated on this marriage occasion was probably Kīrtivarman II who succeeded to the Chalukya throne in A.D. 746 or 747 and whose army is stated in his records to have defeated the army of the Kēraḷas, the Chōḷas and the Pāṇḍyas.

From what is stated of the countries of Koṅgu and Kēraḷa in these inscriptions of Neḍuñjaḍaiyaṇ, it is not difficult to see that the former was bounded on the east and perhaps also on the north by the land of the Gaṅgas—the Gaṅgavāḍi 96,000 of the Western Gaṅgas of Talakūḍ and that on the south it extended far beyond Koḍumuḍi, as even to cover the northern portion of the later Rājāsarya-Vaṇaṇḍu of the Chōḷas which included in it the present Musiri and the Trichinopoly talukas. Coimbatore was in the western division of the Koṅgu-maṇḍalam. The king of the Northern (*vaḍa*) Koṅgu was Adiyaṇ<sup>1</sup>—the Adigaṁmaṇ or Adiyamaṇ of later inscriptions whose capital was at Dharmapuri, the ancient Tagaḍūr, in the Salem district. The Kēraḷa country was situated on the west coast beyond the Sahyādri mountains and may have included also the southernmost portions of the present Coimbatore district. In the 8th century, therefore, it looks as if the Koṅgu king allied himself with the Pallavas in the north and the Kēraḷas in the south and tried to oppose the invasion of the Pāṇḍya Neḍuñjaḍaiyaṇ. The Vallabha was defeated by the Pāṇḍya general and a Gaṅga princess was married into the Pāṇḍya family perhaps as a political measure. It is stated that Pūrvarājar put to flight Vallabha. Māraṅgāri also fought on the same occasion. Perhaps the Pūrvarājar were the chiefs of Gaṅgavāḍi subordinate to the Western Gaṅga king who contracted marriage relations with the Pāṇḍyas.

Mr. Venkayya observes again in his Epigraphical Report that the title Arikēsari occurring in text-line 62, was borne by a certain Neḍu-Māraṇ who is mentioned in the commentary of Nakkīrar on *Iraiyāṇār-Agapporuḷ*. This latter work, as tradition says, was made available for the public by Nilakaṇḍaṇār of Muṣiri eight generations, i.e., about two hundred years, after the actual date of Nakkīrar. Mr. Venkayya seems to have gone wrong in identifying Neḍu-Māraṇ of literature with Tēr-Māraṇ of the Vēlvikuḍi plates where, however, the characteristic title Arikēsari is not given to him. The other titles, too, are not applied to him and the

<sup>1</sup> See remarks on his Nāmakkal inscription in the Madras Epigraphical Report for 1906, p. 75 f.

battles fought by him as described in the commentary under reference, are not found in the eulogy of Tēr-Māṇa given in the Velvikudi plates. On the other hand, Māṇavarman, the great grandfather of the donor Neḍuñjadaiyan, is not only called Arikēsari but is also stated to have fought victorious battles at Pāḷi, Śeṇṇilam and Nelvēli which same are mentioned of him in the commentary on the *Agapporuḷ*.<sup>1</sup> This mention, therefore, of the very same battles both in the plates and in the commentary, sufficiently warrants our identifying Neḍumāṇa of the commentary with Māṇavarman, the great-grandfather of Neḍuñjadaiyan and not with Tēr-Māṇa. Nakkirar has sung also of Neḍuñjeliyan in *Puṇanāṇūru*, and it is not impossible that this Neḍunjeliyan is identical with Śeliyan, the father of Arikēsari Māṇavarman.

Of the six ancestors of Neḍuñjadaiyan mentioned in the Tamil portion of the inscription and the three immediate ancestors mentioned in the Sanskrit portion, we learn nothing more than that the first king Kaḍuṅgōṇ who came to rule after the Kalabhra interregnum was a **Pāṇḍy-ādhirāja**,<sup>2</sup> that the next Māṇavarman bore the title **Avanichūlāmaṇi** and that the third Śēṇḍaṇ, also called Śeliyan and Vāṇavaṇ, was probably identical, as stated above, with Neḍuñjeliyan of the *Puṇanāṇūru* fame. The fourth king, whose military achievements are given in detail, was Śrī-Māṇavarman Arikēsari Asamasaman, who in addition to the victorious battles mentioned already, destroyed the Paravas and the people of Kuṇu-nāḍu. The fifth Śaḍaiyan, also called Raṇadhira, was the lord of the Koṅgas, fought battles against the Āyavēḷ at Marudūr, and with the Mahārathas at Maṅgalapura; and the sixth, Tēr-Māṇa or Rājasinha, defeated Pallavamalla, perhaps at Kuḷumbūr, and fought battles at Neḍuvayal, Kuṇumaḍai, Maṇṇikuṇichchi, Tirumaṅgai, Pūvalūr, Koḍumbālūr and Periyālūr and subjugated the country of Maḷa-Koṅgam as far as Pāṇḍi-kKoḍumiḍi. He contracted relationship with Gaṅgarāja, marrying the daughter of the Gaṅga prince to his son Neḍuñjadaiyan, himself having married the daughter of the king of the Maḷavas.<sup>3</sup> The fact that he defeated Pallavamalla shows that Tēr-Māṇa must have been a contemporary of that king and lived about A.D. 710-760.<sup>4</sup>

As regards the territorial terms and village names that occur in the inscription, Pāṇaṇūr-kūḷḷam is identical with the division of that name in which the village Śōḷavandāṇ near Madura was included.<sup>5</sup> Maḷava is identical with Maḷa-nāḍu.<sup>6</sup> Kuṇu-nāḍu, and the granted village Vēl̥vikudi, and the villages Nagarūr, Korranputtūr and Pāyal mentioned in the description of the boundaries of the latter cannot be identified. Koṅkai is the well-known seaport of that name in the Tinnevely District. Of the villages Nelvēli, Śeṇṇilam, Puliyūr (in Kēraḷa), Marudūr, Maṅgalapura, Neḍuvayal, Kuṇumaḍai, Maṇṇikuṇichchi, Tirumaṅgai, Pūvalūr, Śēṅguḍi, Puḍāṅgōḍu, Koḍumbālūr, Kuḷumbūr, Periyālūr, Pāṇḍikkōḍumiḍi, Kāḍal Vañji, Kōḷi, Penṇāgaḍam, Nāṭṭukkuṇumbu, Karavandapuram and Veṇbai,—Nelvēli is Tinnevely;

<sup>1</sup> *Ibid.*, pp. 129 ff.

<sup>2</sup> Describing the several grades of rulers, the *Kāṁikāgama* states that an *ādhirāja*—*ādhirāja* is the form which the inscription uses throughout the Tamil portion—holds the second rank among kings:—

चतुस्समुद्रपर्वन्तं पृथिवीं यः प्रपालयेत् ।

अक्षरर्षी सम्राट्पातः सम्राट्पत्यं प्रपालयेत् ॥

अधिराजश्चमाख्यातः

(*Hindu Iconography*, Vol. I, Part I, p. 29 n.)

<sup>3</sup> Maḷava is identical with the old Maḷa-nāḍu or Rājāsraya-Vaḷanāḍu (see *S. I. I.*, Vol. II, Introduction, p. 24, and *Historical Sketches of Ancient Dekhan*, p. 129).

<sup>4</sup> Udayachandra, the general of Nandivarman Pallavamalla, also claims in the Udayēndiram grant to have defeated the Pāṇḍy. at Maṇṇaikkudi (*S. I. I.*, Vol. II, p. 368, Text, l. 60 f.). Perhaps we may have to identify Maṇṇaikkudi with Maṇṇikuṇichchi which is mentioned in the Tamil portion (Text, l. 73 f.) as one of the places where Tēr-Māṇa was victorious.

<sup>5</sup> No. 127 of the Madras Epigraphical Collection for 1910.

<sup>6</sup> See above note 8.



Marudūr is perhaps Tiruppuḍaimarudūr near Ambāsamudram; Maṅgalapuram of the Mahārathas might be Mangalore; Koḍumbāḷūr is in the Pudukkōṭṭai State; Pāṇḍikkoḍumiḍi is the village Koḍumuḍi near Karūr a station on the South-Indian Railway; Kuḍal is Madura; Vañji is Karūr<sup>1</sup>; Kōḷi is Woraiyūr near Trichinopoly; Peppāgaḍam is in the Tanjore District; and Karavandapuram is the modern Kalakkāḍ in the Tinnevely District.

TEXT.<sup>2</sup>

## First Plate.

Svasti<sup>3</sup> [||\*]

- 1 Śriyañ=chiram vaś=śiśir-āmsu-śēkharaś-Śiva[h\*] śrit-ārtti-pratibandha-kāraṇam [l\*]  
tanōtu sauvarṇṇa-kapa-
- 2 rdda-sundarañ=kudarppa-Kandarppa-mada-pramarddanaḥ 2 [1\*] Viśvambhara-  
bhara-śrānta-śēsha-viśrāma-kāraṇam [1\*] ā-
- 3 kalp-āntam=bhuvi sthōyād=anvayaḥ-Pāṇḍya-bhābhritām 2 [2\*] Astambhayat-  
kshiti-dharam=pravijjimbhamāṇam=ambha-
- 4 s=samastam-apibaj=jaladhōś=cha yas=sah [l\*] Kumbh-ōdbhavō bhavati yasya  
muniḥ-purōdhūs=sa śri-nidhi-
- 5 r=jjayati Pāṇḍya-narēndra-vamśaḥ 2 [3\*] Asthād=apratima-prabhāva-mabitaḥ=  
Pāṇḍy-ābhidhānō nidhē-
- 6 r=vvārādhvārī<sup>4</sup> mahāpatis=tribhuvanō linē=pi kalpa-kshayāt [l\*] Dhātṛā śriṣṭa-  
vatā punas=sa
- 7 jagatām rakshārttham=abhyarthitas=tējasvi tanayatvam=ōtya śaśinō nāmnā Budh-  
ākhyō=bhavat 2 [4\*]

## Second Plate ; first side.

- 8 Putras=tasya Purūravā bhuja-bala-pradhvasta-daityaḥ=prabhus=tad-vamśō Śikharin-  
dra-mastuka-śi-
- 9 lā-vinyasta-matsya-dvayō [l\*] Śakr-ōrddh-āsana-hāra-bhāji śaraṇō viśvasya viś-  
vambhara-gēha-
- 10 svāmini śāśvatō yudhi jīt-āśēsh-āmar-āri-prabhau 2 [5\*] Dātibhāta-divākasi<sup>5</sup>  
kshitiḍhara-kshu-
- 11 bdh-ābhisaniksbōbhita-kshīr-ōdanvati Kumbha-sambhava-kara-prāpt-ābhishēka-kriyō  
[l\*] isht-ārtth-ārppaṇa-
- 12 tarppit-ārtthi-janat-āpārṇṇa-kshamā-maṇḍalō janm=āvāpa jaga<sup>6</sup>-tray-ārchchita-guṇa[h\*]  
śri-Māravarmma nri-

<sup>1</sup> Pandit Raghava Aiyangar of Ramnad has proved from copious references to literature that the earliest Vañji is Karūr. But an inscription at Dhārāpuram mentions the town Koṅgu-Vañji, suggesting thus, another Vañji which was perhaps the earlier and the capital of Chēra.

<sup>2</sup> From two excellent impressions supplied by Dr. Fleet to Mr. Venkayya in 1893 and another supplied by Dr. L. D. Barnett to me in 1915.

<sup>3</sup> These two syllables are written on the left margin of the plate.

<sup>4</sup> Read \*vvārān-asāri.

<sup>5</sup> Read -divakasi.

<sup>6</sup> Read jagat<sup>6</sup>.

Velvikudi Grant of Nedunjadaiyan : the 3rd year.

i

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6

2  
4  
6

ii a

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10  
12  
14

8  
10  
12  
14

ii b.

16  
18  
20

16  
18  
20

iii a

22  
24  
26  
28

22  
24  
26  
28

iii b.

30  
32  
34  
36

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34  
36



38  
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42  
44  
46

Handwritten text in an ancient script, likely Pahlavi, on a dark, rectangular fragment. The text is arranged in approximately 10 horizontal lines. The fragment shows signs of wear and damage, particularly along the edges and in the center.

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Handwritten text in an ancient script, likely Pahlavi, on a dark, rectangular fragment. The text is arranged in approximately 10 horizontal lines. The fragment shows signs of wear and damage, particularly along the edges and in the center.

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Handwritten text in an ancient script, likely Pahlavi, on a dark, rectangular fragment. The text is arranged in approximately 10 horizontal lines. The fragment shows signs of wear and damage, particularly along the edges and in the center.

58  
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Handwritten text in an ancient script, likely Pahlavi, on a dark, rectangular fragment. The text is arranged in approximately 10 horizontal lines. The fragment shows signs of wear and damage, particularly along the edges and in the center.

68  
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Handwritten text in an ancient script, likely Pahlavi, on a dark, rectangular fragment. The text is arranged in approximately 10 horizontal lines. The fragment shows signs of wear and damage, particularly along the edges and in the center.

78  
80  
82  
84  
86

- 13 Paḥ 2 [6\*] Dharanī-valayaṁ samastam=etan-nija-dōrddanḍa-mah-ōrag<sup>2</sup>ṇa  
bibhṛit<sup>1</sup> [1\*] aharat-sa bhu-  
14 jaṁgam-ādhībhartuṣ=chira-kāl-ōdvahana-klaman-dharāyāḥ 2 [7\*] Adhiruhya  
tulām-a-mitra-varggam=yudhi ji-

*Second Plate ; second side.*

- 15 tv=Āmpita-garbbhatō janitvā [1\*] sudhiyām=adhipas=suvarṇṇa-rāśim vidhivat-sa  
pratipādayām-babhūva [2] [8\*] Tasyā-  
16 2nmajas=taruṇa-bhāskara-tulya-tōjā rājā babhūva Rāṇadhīra iti pratitah [1\*]  
yō ilay=aiva bhuvana-  
17 sya babhāra bhāraṁ hāraṁ yath=āśya guravas=suranāyakasya 2 [9\*] Putras=  
tasya Purandara-pratikṛtir=bhū-  
18 sundari-vallabhō namr-āsōsha-narēndra-vēshṭana-maṇi-vrāt-āvṛit-āṁghri-dvayaḥ [1\*]  
āsīt=satya-sakhaḥ=pa-  
19 rākrama-dhanaḥ<sup>3</sup>=patmāsanaśyāḥ=patir=vvidy-āchāra-vibhūṣhaṇa[h\*] śruta-[dha]ra[h\*]  
śri-Māravarmma=ābhidhaḥ 2 [10\*] Sa Rāja-  
20 siṁhas=sarasiruh-ākshō bhayam bhuvi prāṇa-bhṛitām=apāsya [1\*] raraksha  
dakshaḥ kshapit-āri-paksha-  
21 4h=kshamātalaiṁ kshamā-patir=akshat-ājñah 2 [11\*] Narō nu Rakshō nu Harō-  
nu Pūrushaḥ=parō nu Śakrō nu

*Third Plate ; first side.*

- 22 sarōsham=āgutaḥ [1\*] iti [sma] matvā yudhi yam=bhay-ā[rddi]taḥ=[pa]lāyatō  
[Pallava]malla-bhūpa-  
23 tiḥ 2 [12\*] Kanaka-garbbha-kṛita-prasavaḥ=punas=samadhiruhya tulām=atulām=  
api [1\*] akira[t-ā]-  
24 rttham=apākṛita-kalmashō dvija-daridra-sur-āyatanō=shu yaḥ 2 [13\*] Māhā<sup>5</sup>-  
kulinām=Maḷav-ōndra-[ka]-  
25 nyām sa Māravarmma<sup>6</sup> sadraśim<sup>6</sup>=uvāha [1\*] ajāyat=āśyām Hara-sūnu-kalpō  
jagad-dhitārtthañ=Jaṭi-  
26 1-ābhidhāuaḥ 2 [14\*] Aśishat=sā dharām=ahina-sārah=kshitipah=kshālita<sup>7</sup>-  
kalmash-ānushaṁgam [1\*] nata-rā-  
27 jaka-maṇi-ranna<sup>8</sup>-raśmi-prakar-ābhyarchchita-pāda-patma<sup>9</sup> piṭhaḥ 2 [15\*] Khalayō  
sa gupān=adāt=Kṛitasya  
28 sva-bhujābhyām sura-pādapa-svabhāvam [1\*] abhayam śaraṇāgata-prajābhyas=sā  
divaṁ samjati śa-

<sup>1</sup> Read bibhṛat.

<sup>2</sup> Read pakshaḥ kshamā<sup>2</sup>.  
Read kshitipah kshā<sup>2</sup>.

<sup>3</sup> Read °tmaja<sup>3</sup>.

<sup>4</sup> Read Māhā.

<sup>5</sup> Read rafna.

<sup>6</sup> Read padmā<sup>6</sup>.

<sup>7</sup> Read sadraśim<sup>7</sup>.

<sup>8</sup> Read padma.

*Third Plate ; second side.*

- 29 tru-pārthivēbhyāḥ २. [16\*] Rājatām sa mahāpāla-kirīṭ-ārppita-śaṣaṇaḥ [1\*]  
 Rājasimha-suto rā-  
 30 jā chiram=urvyām=Parāntakah ||||— [17\*] I-praśasti 'Sarvvakratu-yāji āgiya  
 Varōdaya-Bhaṭṭapār=che-  
 31 yāpattadu ||||— Kol-yāpai-palay-ōṭṭi-kkūḍā-maṇṇar-kulān-tavi-  
 32 rttā Palyāga-Mudukuḍumi=pPeruvaludi eṇṇum Paṇḍyādhirājanā-  
 33 pāga-mā-malar-chchōlai-naḷir-śiṇaimiśai-vaṇḍ-alambum Pāgaṇūr-  
 34 kkūṛram¹=eṇṇum paḷaṇa-kkiḍakkai-nir-nāṭṭu=chchoṛkappāḷar-śo-  
 35 lappaṭṭa śrutimārggam-piḷaiyāda Kōṛkai-kilā-Nāṛkōṛraṇ koṇ-  
 36 ḍa vēlvi muṛruvikka kēlvi-andanāḷar muṇbu kēṭka eṇṇ=ēdut-

*Fourth Plate ; first side.*

- 37 t=uraittu vēlviśālai-muṇbu niṇru Vēlvikuḍi eṇṇ=a-ppadiyai=chchī-  
 38 rōḍu tiru-vaḷara=chcheydār [||\*] Vēndan=appoḷudēy nīrōḍ-aṭṭi-kkoḍuttamai-  
 39 yā=ṇiḍu-bhukti ²tuttapiṇṇ[||\*]=Aḷav-ariya ādhirājarai agala nīkki agal-iḍattai=  
 40 kKaḷabhraṇ=eṇṇuṇ=Kali-araiśaṇ kaikkōḍ=adanai iṛakkiyapiṇ[||\*] Paḍu-kaḍaṇ-muḷai  
 41 tta parudi-pōla Paṇḍyādhirājan vēlirpaṭṭu viḍu-kadir-avir-ōḷi vilaga viṛri-  
 42 rundu vēlai-sūḷnda-viyal-iḍattu=kkōvūṇ=kuṛumbum pāvudaṇ murukki=chche-  
 43 nkol=ōchchi vēṇ-kuḍai-niḷaṅ-ṅāṅ-ōḷi-niṇainda Taraṇi-maṅgaiyai=ppiṇar-  
 44 pāl=urimai tiravidi=ṇikki=ttappāl=urimai naṇṇaṇam=amaitta māṇam-pō-  
 45 rttā-tāṇai-vēndanṇ=ōḍuṅgā-maṇṇar-ōḷi-nagar=aḷitta Kaḍuṅgōṇ=eṇṇuṇ=kaḍi-  
 46 r-vēṇ-Bēṇṇaṇ [||\*] Maṇṇ=avaṅku magan-āgi mahitalam podu-nīkki Malar-maṅgai[y\*]-o-

*Fourth Plate ; second side.*

- 47 ḍu maṇaṇ=ayaṇda aṛṇam-il-aḍar-vēṅ-ṅāṇai-Ādhirājan Avaṇichūḷāmaṇi etti-  
 48 rattum=igal-aḷikku=matta-yāṇai Māravarman [||\*] Maṇṇ=avaṅku maruv-iṇiya  
 oru-magaṇ-ā-  
 49 gi Maṇ-inagaḷai maru=kkāḍindu vikramattin vēlirpaṭṭu vilāṅgal-vēl-po-  
 50 ri-vēndar-vēndan śilai-ttāḍa-kkai=kkolai-kkaḷiṇṇu=chChēṭṭyaṇ Vāṇavaṇ  
 51 śēṅkōṛ-Chēndan [||\*] Maṇṇ=avaṅku=ppaḷipp-iṅgi vēḷi-ttōṇri Udayagiri-madhyama-  
 52 t=urru-śuḍar-pōla=ttēṇṇ-eṇṇu diśai naḍuṅga maṇṇ=avaṇ vēlirpaṭṭu=chchū-  
 53 ḷi-yāṇai śelav=undi=pPaḷivāy=amar-kaḍandu Vilvēli-kkaḍar-ṅāṇaiyai  
 54 Vēlvēli-ohcheru vēṇṇum viṇavi-vand-aḍaiyāda Paravarai=ppāḷi-paḍut-  
 55 tum=aṛukāl-iṇam puḍai tīḷaikkūṇ=Kurunaṭṭavar-kulān=keḍuttu-  
 56 ā=kai-nnalatta-kāḷiṇṇ-undi=chChēnnilattu=chcheru vēṇṇum pār-aḷavun=

¹ The *paḷi* is marked over *ms.*² Read *tuytta*°.

# Velvikudi Grant of Nedumjadaiyan : the 3rd year.

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*Fifth Plate; first side.*

- 57 [ta]ni-chchenkōr-Kēraḷapai=ppala-mu[raiyum=urimai]-chchugam[ōḍ=avar-yā]pai-  
 58 [y\*]um purisai-mmadiṟ-Puli[y\*]ūn=ppaga-pāligai ira[v]āmai iṅa[l-ā]-  
 59 li[y\*]uḷ venṟu koḍum vēl-āli[y\*]um viyaṅ-paṅgambum=ēlāmai ṣeṅ-  
 60 r=erind-aḷittum Hiranyagarbhamun-Tulābhāramun=darapimisai=ppala ṣey[du]  
 61 antaṇarkkum aṣaktarkkum vand=apaiga enṟ=itt=aḷitta makarikai-aṇi-maṇi-  
 62 neḍu-muḍi-Arikēsaṟi Aṣamasaman śrī-Māravarmman. [||\*] Maṟṟ=avaṟku magan-  
 āgi=kkorṟa-vē-  
 63 l valaṅ-ēndi=pporud=ūruṇ-kadar-rāṇaiyai Marudūruṇ māṇb=aḷitt-Āyavē-  
 64 lai agappaḍa ey=enṇāmai eṇind=aḷittu=chChengōḍi[y\*]um Pudāṇ[kō]ṭ-  
 65 tuṇ=cheru venṟ=avar-śiṇaṇ=tavirttu=kkoṅg-alarun-naṟum-poḷilvāy=kku-  
 66 [y\*]i[lo]ḍu ma[y\*]il=agavu-Maṅgalapuram=enṇum mahā-nagaruṇ Mahāratharai e-

*Fifth Plate; second side.*

- 67 ṇind=aḷitt-aṇai-kaḍal-valāgam podu-moli agaṟri=chchilai[y\*]um puli[y\*]um  
 68 kayaluṇ=chēṇṟu nilaiy-amai-neḍu-varai-iḍava[y\*]ir=kidāy maṇṇ=iṇid-āṇḍa  
 69 taṇṇ-aḷi-chchenkōr-Rēṇṇa=Vāṇavaṇ Śembiyaṇ Śōḷaṇ maṇṇar-maṇṇa[n\*] madu-  
 70 ra-Karunāḍagaṇ koṇ-ṇaviṇṟa neḍuṇ-chuḍar-vēṟ-Koṅgar-kōmāṇ kō=chChadaiyaṇ  
 [||\*]  
 71 Maṟṟ=avaṟku putraṇāy Maṇ-magaḷadu poruṭṭāga matta-yāṇai ṣelav=undi māṇa-  
 72 vēl valaṅ-ēndi=kkaḍu-viṣaiyāl=edirndavarai Neḍuvayalvāy nigar=aḷi-  
 73 ttu=kkaṟuv-aḍainda maṇattavarai=kKurumaḍaivāy=kkūrpp=aḷittu Ma-  
 74 ṇṇikuṟichchi[y\*]un=Tirumaṅgai[y\*]u=muṇṇiṇṟavar muraṇ=aḷittu mēvalō-  
 75 r-kadar-rāṇai[y\*]ōḍ-ōḟṟ=edirōy vandavarai-pPūvalūr=ppuṇaṇ-gaṇḍuṇ=  
 76 koḍum-purisai-nneḍuṇ-kidaṅgiṟ-Koḍumbālūr=kkūḍār-kaḍum-pari-

*Sixth Plate; first side.*

- 77 [y\*]uṇ=karuṇ-kaḷiṇuṇ-kadir-vēliṟ=kaikkonḍuṇ=Chēva . . . [kā]ḍāda Pallavaṇai-k  
 78 Kuḷumbūruṭ=ṭōṣ-āliya enṇ-iranda māl-kaḷiṟum=ivu[li]ga]um pala kavarn-  
 79 dum tariyularāy=ttarittavarai=pPeriyalūr=ppīḍ-aḷittum pūviri[y\*]u-  
 80 m-poḷiṟ-chēlai-kKāviriyai=kkaḍanditt-aḷag-umainda vār-ēilai[y\*]iṇ Maḷa-Ko-  
 81 ṅgam=aḍippaḍuttu miṇḍ-oliya-maṇi-imaikkum=ēḷil-amainda neḍum-pu-  
 82 risai=pPāṇḍikkōḍumiḍi ṣeṇṟ=eydi=pPaṣṇpatiyadu paṇma-pādam paṇind-ē-  
 83 tti=kkanaka-rāṣi[y\*]uṇ-kadir-maṇi[y\*]um mana-maḷaḷa¹=kkuḍuttittuṇ-kōṅga-  
 84 r-van-naṟuṇ-kāṇṇi-kGaṅga¹-rāḷaṇḍa sambandhaṇ=cheydum enṇiṇṟandaṇ Ga-  
 85 sahasramum. Hiranyagarbhamun-Tulābhāramum maṇṇiṇṟamisai=ppala ṣeydu ma-  
 86 ṇai-nāviṇḍōr kurai-tiṟttuṇ-Kūḍal Vāṇji Kōḷi enṇu-māḍa-mā-madi-

*Sixth Plate; second side.*

- 87 l pudukki[y\*]um=aṟai-kaḍal-valāgaṇ-kurāiyāḍ=āṇḍa maṇṇar-maṇṇa[n\*]-Rēṇṇivar-  
 maṇuga-

¹ Read *magiḷa*.

² Read *kKaṅga*.

- 88 n māṇa-veṇ-kuḍaimāṇ=Rōr-Māraṇ [||\*] Maṇṇ-avaṇku magāṇ-āgi Māl-uruviṇ veḷiṇṇa-  
 89 tṭu=kkorṇa-māṇṇ-udāṇ=iyamba=kkulir-veṇ-kuḍai maṇ kāppa Pū-magaḷum Pu-  
 90 la-magaḷum Nā-magaḷum-nalaṇ=ōtta=kKali-araiṇaṇ vali tālara=ppoliviṇoḍu vi-  
 91 rirundu karuṇ-kaḍal-uḍutta peruṇṇaṇ-ñālattu nāḥ-perum-paḍai[y\*]um pā-  
 92 ṇpaḍa=pparappi=kkarudādu vand=edir-malainda Kāḍavanai=kkāḍ-aḍaiya=ppū-vi-  
 93 ri[y\*]um-puṇṇaṇ-kalāni-kKāviri[y\*]iṇ=ṇeṇkaraimōḥ=ṇaṇṇ-āgam-malar-chchōlai-  
 94 pPēṇṇāgaḍatt-amar veṇṇun=ti-vāy-a[y\*]il=ōndi=ttiḷaitt=edirēy van-  
 95 d-iḷutta Āyavēlai[y\*]uṇ=Kurumbarai[y\*]um=aḍal-amaru=aḷitt=ōṭṭi=kkāṭṭu-  
 96 [k]kuṇumbu seṇṇ-aḍaiya Nāṭṭukkuṇumbiṇ=cheru v[e]ṇṇum=arai-kaḍal-valā-

*Seventh Plate ; first side.*

- 97 gam-oru-moḷi=kkolṇiya śilai-mali-taḍa-kkai Teṇṇa=Vāṇayan avaṇō-  
 98 y Śrīvaran Śrī-manōharan Śiṇachchōḷaṇ Puṇappūḷiyaṇ vitakanmashan<sup>1</sup>  
 99 vinayaviśrutan<sup>2</sup> vikramapārakan viṇapurōkan marudbalan mānyaśāsanan Manūpaman  
 100 marḍḍitaviran giristhiran gitikinnaran kṛipālayan kṛitāpatānan Kalippagai  
 kaṇḍa-  
 101 kanishṭuran<sup>3</sup> kāryadatshīṇaṇ<sup>4</sup> kārmukha<sup>5</sup>-Pārtthan Parāntakan Paṇḍitavatsalan  
 paripūruṇṇan pā-  
 102 pabhīru kurai-uṇu-kaḍaṇ-paḍai-ttāṇai-ṇuṇṇaḍiṇṇan gūḍhaniṇṇiṇṇayan<sup>6</sup> nirai-uṇu-mala-  
 103 r-maṇi-niṇ-muḍi-Nēriya[r\*]kōṇ=Nēḍuṇṇaḍaiya[u\*] [||\*] Maṇṇ-avaṇṇaṇ rājya-  
 vatsalam<sup>7</sup> mūṇṇā-

*Seventh Plate ; second side.*

- 104 vadu śelānirpa āṇḡ-oru-nāṇ=māḍa-mā-maḍir-Kūḍaṇ-pādu niṇṇavar ā-  
 105 krōdhikka=kkorṇavanōy maṇṇ-avarai=ttērreṇa nangu kūvi eṇṇēy nuṇ-kurāi  
 106 eṇṇu muṇṇāṇa=ppaṇitt-arula mō-ṇā=ṇiṇ-kuravarāṇ=pāṇ-muṇai[y\*]iṇ va-  
 107 luvāmai māṇa-tōy-malar-chchōlai=pPāṇṇūr-kkūṇṇattu=ppaḍuvadu  
 108 āḷva-tāṇai-aḍal-vēndēy Vēḷvikūḍi eṇṇum piyar-uḍaiyadu o-  
 109 lḡāda vē-rāṇai[y\*]oḍ=ōda-vēli uḍaṇ kātta Palyāga-Mudukuḍumi-  
 110 pPeruvaḷudi eṇṇum Paramēśvāraṇṇāṇ<sup>8</sup> Vēḷvikūḍi eṇṇappaṭṭadu  
 111 kēḷviyir=raṇappaṭṭaḍaṇai=ttulakkam-iḷḷā kaḍaṇ-rāṇaiy-āya Kalabhra-  
 112 rāl=iṇakkappaṭṭadu eṇṇu niṇṇavan vijñāpyāṇ=cheyya naṇṇu naṇṇ-eṇṇu  
 113 muṇuvalittu nāṭṭā=ṇiṇ paḷamaiyādal kātṭi nī [koḷgav=eṇ]ṇa nēṭṭ[ā]ḥ=raṇ

*Eighth Plate ; first side.*

- 114 paḷamaiyādal kātṭiṇṇaṇ=aṇḡ=appaḷudēy kātṭa mō-ṇāḷ=e[ṇ]-kura-  
 115 varāṇ=pāṇmuṇai[y\*]iṇ=raṇappaṭṭadai emmālun=tarappaṭṭad=eṇṇu śe-  
 116 mmāṇḍ=avaṇ=eḍutt-aruli viḥ-kai-ttaḍa-kkai-viṇal-vēndaṇ Korṇai-kilā-  
 117 ṇ Kāmakkāṇi Nārchiṇṇaṇku=ttēr-ōḍuṇ-kaḍaṇ-rāṇaiyāṇ=ṇiṇrōḍ-aṭṭik[ko]-  
 118 ḍuttamai[y\*]iṇ maṇṇ-idaṇku=pperu-nāṇḡ-ellai terreṇa viritt=uraip-  
 119 piṇ=pugar-aṇu-poliṇ=maruṇḡ-uḍutta Nagaṇūr-ellaikkum mēkkum maṇṇ-idaṇku-

<sup>1</sup> Read \*kalmashan.

<sup>2</sup> Read \*nishṭuran.

<sup>3</sup> Read śūḍhaśirṇayan.

<sup>4</sup> The original has the impossible combination \*viśrutan.

<sup>5</sup> Read \*kāryadakhīṇan.

<sup>6</sup> Read \*karmuka\*.

<sup>7</sup> Read \*vatsalam.

<sup>8</sup> Read ṇāl.



- 120 tt[e]ṇ ellai Kuḷandaivañ-Kā|vandai-śe[y\*]kkuñ-Kaḷandai-kku|attil-ālnkk[u]  
 121 vaḍakkum maṟṟ=idaṟku mōl-ellai aṟṟam-illā=kKoṟṟapputtū(r)r-Oḍumaiy-i-  
 122 ruppai-chchey-idai mōṟṟalai=pperuppiṟku=kkiḷakkum maṟṟ=idaṟku vaḍupā-

*Eighth Plate ; second side.*

- 123 l-el[lai kāya]luṭ=kamalam malarum Payaluḷ vaḍapālai=pperuppiṟku-t-  
 124 teṟkum ivv=iyait[ta\*] peru-nāṅg-ellaiyir-paṭṭa pūmi kārāṇmai miyāṭchi  
 125 ul-aḍaṅga mēl-eñ-guravarāṟ=kudukkappaṭṭa paṟiśōy emmāluñ=[ko]ḍuk-  
 126 kappattadu [|\*] Maṟṟ=idaṟk=āṇatti kurram-iṟṟi-kkūruñkālai=kkoṅgar-van-na-  
 127 ruñ-kapṇi-kGaṅgarājanadu kanyā-ratnañ Koṅgar-kōṟku-kkuṇandu koḍuppa āṟp-  
 128 p-aṟā-aḍar-rāṇai-pPūrvvarājar puṅaṟ-eḷundu vil-viravuñ=kaḍaṟ-rāṇai-[Va]llabhaṇai  
 129 Venbaivāy āl-aṇṇaruḷ=alind-ōḍa vāḷ-amaruḷ-uḍaṇ=vavviya ēṇa-ppori<sup>2</sup>  
 130 igal-amaruḷ=iḍi-urum-eṇa valaṇ-ōnda [malai]tta-tāṇai-Maḍavikalāṇ<sup>3</sup> maṇṇar-kō-  
 131 ṇ-arulir=peṟruñ=kol-valaikkuṇ-vōṟ-rāṇai-ppal-valai-kkōṇ kuṇara-

*Ninth Plate ; first side.*

- 132 ppaṭṭu=ppōr-vandavar-madan=tavirkkuñ-Karavandapurattavar-ku[la-l]tōṇṟal māṇv-ēn-  
 133 duñ = kaḍar - rāṇai - Mūvēndamaṅgalappērarai[ya]ṇ = āgiya Vaidyaka-śikhāmaṇi<sup>4</sup>  
 Māraṅgā-  
 134 ri [|\*] I-ppiramadēyam-uḍaiya Koṟkai-kilāṇ Kāmakkāṇi Śuvarañ-Jiṅgaṇ i-  
 135 ḍaṇuḷ mūṇṟil-onṟun-taṇakku vaitt-iraṇḍu-kūṟum aimpadiṇvar Brāhma-  
 136 ṇarkku nīrōḍ=aṭṭi-kkoḍuttāṇ [|\*] Idaṇuḷ Mūrtti Eyiṇaṇ śavai[y\*]ōḍ-o  
 137 ttadu nāṅg-arai-ppaḍāgāram-uḍaiyaṇa [|\*] Idaṇuṭ=ṭaṇakku vaitta oru-kūṟilu-  
 138 n=tambimārkkku nāṅgun=tañ-chirappanāṟ-makkaḷukku āṟum sa-  
 139 bhai[y\*]ōḍ=otta paḍāgārañ=koḍuttāṇ [|\*] I-ppraśasti pāḍiṇa Sēṇapa-  
 140 ti Ēṇādi ā[y\*]iṇa Śattañ-Chāttarṟku mūṇṟu kūṟārūm-āy-t-  
 141 taṅgaḷōḍ=otta nāṅgu paḍāgārañ=koḍuttār ||<sup>5</sup>

*Ninth Plate ; second side.*

- 142 Āsit<sup>6</sup>=Maṅgalarājō Maḍhuratarah śāstravit=kavir=vvāgmi[|\*] ājñaptir=asya  
 Vaidyaḥ Karavandapur-ā-  
 143 dhivāstavyaḥ 2 [18\*] <sup>6</sup>Ratshān=naraḥ parakṛitau vidadhīta vidvān=pādā hi  
 Dharmma yaśasaḥ para-  
 144 masya labdhā[h\*] [|\*] Dhātr=aiva <sup>7</sup>srasṭam=akhilam <sup>8</sup>bhuvanan=tath=api  
 ratshantri<sup>9</sup> pūṇyatatayaḥ <sup>10</sup>prathivIn=narēndrā[h] || [19\*] ||<sup>4</sup>  
 145 Na hi bhūmi-pradānād=vai dānam=anyad=viśishyatō [|\*] na ch=āpi bhūmi-haraṇāt  
 pāpa-  
 146 m=anyad=vidhiyatō 2 [20\*] Dātā daś=ānugrahṇāti<sup>11</sup> yō harēd=daśa hanti  
 cha [|\*] atit-ānāgatā-

<sup>1</sup> Read *kKaṅga*.

<sup>2</sup> These two syllables are written over an erasure.

<sup>4</sup> For the ornamental form of the punctuation, see Plate.

<sup>6</sup> On the use of *tsa* for *ksha*, see above, p. 1.

<sup>8</sup> Read *bhuvananāḥ*.

<sup>10</sup> Read *prī*.

<sup>5</sup> Read *vikalan*.

<sup>6</sup> Read *āsīn*.

<sup>7</sup> Read *srasṭam*.

<sup>8</sup> Read *nti*.

<sup>11</sup> Read *grī*.



- 147 nī=ha kulāni. kula-nandana. 2. [21\*] Sva-dattām para-dattām vā. yā. hanṭa  
vasundharā  
148 m [i\*] na tasya [na]rakāt¹-ghorād-vidyāt. nishkṛtiḥ kvaचित. 2. [22\*]  
Bahubhir=vvasudhā

## Tenth Plate.

- 149 dattā bhujyāt h[i] ²tarādhipaiḥ [i\*] yasya yasya yadā bhūm[i]s=tasya.  
tasya ta-  
150 dā phalam [23\*] ||² chatvāraḥ imē Vaishṇavē Dharmē ślokaḥ ||³  
151 Maṛṛ-i[da\*]nai=kkāttār malar-aḍi eṇ muḍi mōla eṇṇu korraṇaṇēy paṇi-  
152 tt-aruli-tterreṇa=ttāmra-śāsanañ=cheyvittāṇ ||||— Iydeḷudi-  
153 ṇa Śuttakēśari=pPerumpāṇaikārapukku perumakkaḷ arulāḥ-perṇa-  
154 du oru illa-vaḷāvam iraṇḍu mā=chchey[y\*]um oru puṇchey[y\*]u-  
155 m perṇāṇ ivai Yuddhakēśari=pPerumbaṇaikā[ra\*]p-eḷuttu [||]

## TRANSLATION.

(Verse 1): Hail! May Śiva, whose head ornament is the cool-rayed (moon); who is the (primeval) cause for the cessation of the sufferings of the devoted, who is beautiful with matted hair of golden hue, and who crushes the mischievous pride of Kandarpa (Cupid); grant you perpetual happiness.

(V. 2). May the line of **Pāṇḍya** kings, the cause of rest to (the serpent) Śāsha, who is fatigued by bearing the burden of the Earth (on his heads), prosper on this earth to the end of the *kalpa*.

(V. 3). Victorious is the race of Pāṇḍya kings, the mine of prosperity, whose family priest is the sage (Agastya) born of the pitcher, who stopped the rapidly growing mountain from (further) growth, and drank all the water of the ocean.

(V. 4). There was (ruling) at the entrance into the sea a king famed for his matchless prowess, named Pāṇḍya, who, even after the three worlds had disappeared at the end of the *kalpa*, was requested again to rule the worlds by the Creator who created (these) anew, and was born as the splendid son of the moon and named Budha.

(Vv. 5 and 6). His son was Purūravas, who crushed the kings of giants by the strength of (his) arm; in his family which had engraved the pair of fish (its crest) on the topmost rock of the lord of mountains (i.e., Mēru); whose (kings) shared with Śakra (i.e., Indra) half of his throne and his necklace; which was the asylum of the universe; which was the husband of the earth; which was everlasting; which in battles defeated completely the powerful enemies of the gods; whose messengers were the gods; who stirred and churned the milk-ocean by the mountain (Mandara); the crowning ceremony (of whose kings) was performed by the hand of the pitcher-born (sage Agastya); and which had filled the circle of the earth with supplicants whose hearts were gladdened by the granting of their desires, was born the glorious king Māravarman, whose virtues were praised by the three worlds.

(V 7). Bearing on his big serpent-like shoulder the whole circle of this earth, he removed the fatigue of the lord of serpents (i.e., Śēsha) (which had been caused) by the carrying of the earth for a long time.

(V. 8). He, the patron of the learned, conquered enemy crowds in battles and ascended the scales; came out of the nectar womb (of the cow); and according to rule, gave away heaps of gold<sup>1</sup>.

(V. 9). His son was the king called **Ranadhira**, whose prowess was equal to that of the youthful sun and who bore the burden of the earth as sportively as his ancestors wore the necklace of (Indra), the chief of the gods.

(V. 10). His son was the glorious king named **Maravarman**, a counterpart of Purandara (Indra); the dear lord of the beautiful lady, earth, whose pair of feet was surrounded by the collection of gems in the crowns of all kings bowing in obeisance; whose friend was truth; whose wealth was prowess; the lord of the goddess of prosperity (Padmāsānā); who was an ornament of learning and good conduct and a depository of sacred knowledge.

(V. 11). That lotus-eyed **Rājasimha**, the king of the whole earth, driving away the fear of created beings on earth, ably protected the earth unopposed (after) destroying the allied enemies.

(V. 12). "Is he Nara (i.e., Arjuna); is he a giant; is he Ilara (i.e., Śiva); is he the Primeval Man (Viṣṇu); is he Śakra (Indra) come with anger?" thus thinking of him, in the battle-field, the frightened king **Pallavamalla** runs away (from him).

(V. 13). Who being made to be born of the womb of the golden (cow) and having again ascended the matchless scales, was freed of (his) sins and showered freely (his) wealth on Brahmins, beggars and temples.

(V. 14). This (king) **Māravarman** suitably married the daughter of the **Maḷava** king of high birth; and from her was born, for the good of the world, (the king) named **Jaṭila** almost equal to **Skanda** the son of Śiva.

(V. 15). That king of great strength ruled the earth clearing it of (all) associations of corruption; the footstool of his lotus feet was worshipped by the great lustre proceeding from the gems on the crowns of prostrating kings.

(V. 16). I imagine that he lent (his) virtues to the **Kṛita** (golden age); (he lent) to the celestial tree its nature, from his hands; to the subjects who sought refuge (in him), his promise of protection; and to the enemy kings on the battle-field, heaven.<sup>2</sup>

(V. 17). May he be long glorious on earth, king **Farāntaka**, the son of **Rājasimha**, whose commands are borne on the crowns by rulers of earth.

(L. 30). This *prāśasti* was composed by **Varōdayabhaṭṭa** who was a performer of all sacrifices (*Sarvakrutuyājin*).

(L. 31). **Narkorran**, the headman of **Korkai**, who never transgressed the path of the *Śruti*s as interpreted by the highly learned (men) of the division called **Paganūr-kūrram**,—a well-watered land of extensive paddy fields, where the beetles buzzed on cool buds in groves blooming with the **Nāga** and the mango (trees),—being desirous of completing a (Vedic) sacrifice begun (by him), through (the favour of) the **ādhirāja** of the **Pāṇḍyas** called **Palyāgamudukuḍumi-Peruvēḷudi**, who dispersed the crowd of the enemy kings by leading numbers of ferocious elephants (against them), the *kṣatri*-**Brahmanas**, in presence (of the king) saying

<sup>1</sup> These are the gifts which kings are expected to make on their coronation or on obtaining conspicuous victory in battles. They were also expiatory in character. See below, v. 18.

<sup>2</sup> The nature of the celestial tree is to give whatever is wanted and the hands of the king were giving away gifts on a very liberal scale. To give enemy kings heaven means to kill them on the battle-field and by so doing to send them to heaven.



<sup>1</sup> The word -*iravāmai* is explained by Pandit Raghava Aiyangar of Ramnad to mean 'in a moment.'

(L. 62). Then (came) his son King Śaḍaiyaṇ, the lord of Koṅgas, whose javelins were long, brilliant and destructive, who was (also called) Teṇṇaṇ Vāṇavaṇ, Śembiyaṇ, Śōḷaṇ,<sup>1</sup> king of kings, the beautiful Karunāṭakaṇ, who with the victorious javelin in his right (hand), fought and destroyed the glory of the ocean-like army that came forth at Marudūr and capturing Āyavēḷ, attacked and destroyed him completely<sup>2</sup>, gained victories in battles at Śeṅgoḍi and Puḍaṇkōḍu<sup>3</sup> and brought his (*i.e.*, Āyavēḷ's) anger to an end ; at the great city called Maṅgala-pura, where the peacock danced with the cuckoo near tanks perfumed with opening flowers, attacked and destroyed the Mahārathas ; removed the word "common property"<sup>4</sup> (with reference to) the country (bordering) on the roaring sea ; administered justice tempered with mercy and ruled the earth with love, having reached the slopes of the high and permanent mountain (Mōra) and cut on the broad face of it the bow, the tiger and the fish.

(L. 71). Then (came) his son Tēr-Māraṇ (*i.e.*, Māraṇ of the horse-chariot) the king of kings, a member of the Pāṇḍya (Teṇṇavar) family, the proud possessor of the white parasol, who in order to acquire the goddess of the earth, carried in his right hand the awe-inspiring javelin and driving (forth) *mast* elephants (into the battlefield), defeated straightway at Neḍuvayaḷ his opponents, who had rushed in great haste (*against him*) ; suppressed the rage of those whose minds were filled with anger (*against him*), at Kuṟumaḍai ; destroyed the power of (the enemies) who confronted him at Maṇṇikuṟichchi and Tirumaṅgai ; saw the backs of the in-subordinate (*chiefs*) who advanced towards him with an ocean-like army, at Pūvalūr ; captured the fiery steeds, the black elephants and the sharp missiles of enemies at Koḍumbālūr which had high ramparts and deep trenches (round it) ; deprived the splendour of the Pallava (*king*) . . . . . at Kuḷumbūr and took numberless huge elephants and horses ; humbled at Periyālūr the greatness of those who had come to cut him asunder not bearing (to see his greatness) ; crossed the Kāviri (*with its*) groves (of trees) and tanks of budding flowers ; subjugated Maḷa-Koṅgam with (the help of his) beautiful long bow ; proceeded and reached Pāṇḍikkoḍumiḍi of high fortifications, beautiful with the lustre emanating from brilliant gems ; prostrated at and worshipped the lotus feet of Paśupati (Śiva) ; gave away with great pleasure heaps of gold and lustrous gems ; contracted relationship with Gaṅgarāja, who wore garlands of sweet-scented flowers ; and performing *gṇ* earth countless (gifts of) *Gōsahasra*, *hiranyagarbha* and *tulābhāra*, relieved the distress of (the Brāhmanas) who studied the Vēdas ; renewed the palaces and the high ramparts (of the capital towns)<sup>5</sup> named Kūḍal (*i.e.*, Madura), Vāñji (Kūrūr) and Kōḷi (Uṟaiyūr) and ruled the whole earth (bounded) by the roaring ocean.

(L. 88). Then (came) his son Neḍuñjadaiyaṇ, the king of the Nēriyar (*i.e.*, the Chōlas), who (wore) a high crown covered with flowers and gems, who kept (*his*) council secret, who was respected for his virtues (and possessed) an army of battalions (*as extensive*) as the rising noisy ocean, who was afraid of (committing) sins, who had no wants, who was the lover of the learned (Paṇḍitavatsala), death to his enemies (Parāntaka), a Pārtha (*i.e.*, Arjuna) in (wielding) the bow, clever in his designs, cruel to the wicked, the enemy of the Kali (*age*) (Kalippagai), the performer of noble deeds, the abode of mercy, a Kinnara in music, firm as mountain, the smasher of heroes, he who equalled Manu, whose commands were obeyed, who was strong as

<sup>1</sup> The king having conquered the Chēra and the Chōla, apparently appropriated their crests also, *viz.*, the bow and the tiger and their titles Vāṇavaṇ, Śembiyaṇ and Śōḷaṇ.

<sup>2</sup> The word *ēyēṇṇāmai* is translated tentatively.

<sup>3</sup> Śeṅ-goḍi and puḍaṇ-kōḍu may have to be interpreted in the sense of 'brilliant flag' and 'brand new drum' (?) , which perhaps were the boast of the Āyavēḷ.

<sup>4</sup> *I.e.* made it all his own.

<sup>5</sup> We must understand after *enṇum*, some word like *nagaragaḷin*. But it is also possible that *māḍa-māmaḍi* is a recognised term (*rūḍha-nāma*) for a capital town with palaces and fortifications; *cf.* the term as it occurs in I, 104.

wind, the foremost of the valiant, master of heroism, renowned for good behaviour, free from (all) blemish, **Punappūliyan**, **Śinacchōḷan**, **Śrivarā**, the paramour of Śrī (i.e., Lakshmi), the **Tennan** (i.e., Pāṇḍya) and **Vanavan** (i.e., Chēra)<sup>1</sup> whose long hand holds the bow and whose one word (of command) was accepted by the earth (bounded by) the noisy sea, who appeared in the form of Vishnu with victory thrice-told<sup>2</sup>, protecting the earth under his cool white umbrella, well praised by the goddess of the flower (i.e., Lakshmi), the goddess of the earth and the goddess of the tongue (i.e., Sarasvatī); who began his rule so brilliantly that the strength of the lord of Kālī was weakened; who, in the battle of **Pennāgaḍam** (surrounded by) an expanse of water and flowery groves and (situated) on the southern bank of the **Kavēri** of blooming flowers and well-watered paddy fields, defeated the **Kāḍava** (king), who inconsiderately came and attacked (him) with his four-fold big army spread on all sides of the extensive earth girt by the black ocean, and drove (him) into the forest; and who crushing and driving in a fierce battle the **Āya-Vēl** and the **Kurumbas** that came and attacked (him) in great numbers, advanced with fiery spears and gained a victory over them in a battle at **Nāṭṭukkūṟumbu** (i.e., Kūṟumbu-nāḍu) (so that they) sought shelter in forests for (their) fortifications.

(L. 103). While the third year of the reign of this (king) was current, one (particular) day a bystander of **Kūḍal** (i.e., Madura) (the city of) mansions and high ramparts, having cried out (by way of complaint)<sup>3</sup>, the king himself at once called him mildly and was pleased to ask him first "what is your complaint." The bystander submitted thus "Oh! Mighty king of powerful army! Formerly without swerving from the pure (path) prescribed by law, (the village) called **Vēlvikuḍi** included in **Pāṅaṇūr-kūṟṟam**, whose flowery groves touched the sky, was designated **Vēlvikuḍi** and was granted through the *kēlvi* (Brahmans) by your ancestor, the great lord known as **Palyāgamudukuḍumi-Peruvaḷudi**, who protected (the earth) girt by the ocean with an army of spearsmen who never miss (their aim). It has (since) been resumed by the ignoble (yet) ocean-like army of the **Kaḷabhras**." The king gently smiled and said: "Very well, very well, prove your antiquity (of the gift) by (a reference to) the district (assembly) and receive (it back)." He (the supplicant) proved then and there, the antiquity of his (claim) by (a reference to) the district (assembly). Thereupon the powerful king, of long arms holding the bow, being overjoyed was pleased to declare "what was granted formerly by my ancestors according to rule, is also granted by Us," and so saying he, of (many) chariots and ocean-like army, gave (it) with libations of water to **Kamakkāpi Nārchinṅan**, the headman of **Korkai**.

(L. 118). The four big boundaries of this (village) given in full detail are:—(The eastern boundry is) to the west of the boundary of **Nagarūr** surrounded on (all) sides by faultless flower-gardens. The southern boundary of this (is) to the north of the field (called) **Kūḷvandai-śēy** of **Kūḷandēvan** and of the banyan tree in the **Kālandai**-pond. The western boundary of this (is) to the east of the mound (*peruppu*) on the western side of the field (called) **Oḍumaiyiruppai-śēy** of the faultless **Korraputtūr**. And the northern boundary of this (is) to the south of the mound on the northern side of (the village of) **Pāyal** where lotuses grow in canals.

(L. 124). The land included within the four big boundaries thus described is also given away by us, inclusive of *kārāṇmai* and *mīyāḷchi*, in the same manner as it had been given formerly by our ancestors.

(L. 126). The *āṇatti* of this (grant) correctly described is **Madavikalap**, **Māraṅgari**, the crest-jewel of the **Vaidyaka** family entitled **Mūvēndamaṅgalappērāriyan** who was favoured by the king of kings, whose army fought powerfully like a thunderbolt, in battles where

<sup>1</sup> See foot-note 1 on p. 807, above.

<sup>2</sup> கொற்றமுன்முடனியம்ப could not be satisfactorily interpreted.

<sup>3</sup> I have taken *ākroḍhikka* to stand for *ākrośikka* from root *krus* with the prefix *ā*; see *Naishadhakūya*, h. I, v. 81, where *ā-krusyata* is explained 'cried out in order to expose a mistake committed.'

machines shaped like wild hogs (*śnapporī*) killed (*the enemies*) in (*close*) fight with (*drawn*) swords when the kings of the east (*Pūrvarājar*) possessing clamorous battalions of fighting men rose up, and put to flight with (*great*) loss in an infantry attack at Venbai, the Vallabha of a vast army of archers, on the occasion when the excellent daughter of Gaṅgarāja who wore a garland of highly scented flowers (*dribbling*) honey was secured and offered to Kōṅgarkōṇ (*i.e.*, the Pāṇḍya king)<sup>1</sup>, who was a prince of the race of Karavandapurattavar, who possessed a powerful and big army that crushed the pride of those who came to fight being (*thither*) brought together by (*i.e.*, under the leadership of) kings wearing many bracelets and possessing an army of spearsmen who wielded deadly weapons.

(L. 134). Kāmakkāṇi Śuvaran Śiṅgaṇ, the headman of Korkai, who owns this *brahmadēya* reserving for himself one-third of this (*village*), gave the (*remaining*) two parts to fifty Brāhmaṇas with libations of water. In this are included the four and a half *paḍāgāras* (*of land*) of Mūrti Eyiṇṇ approved by the (*village*) assembly. And in the part reserved for himself in this (*village*) he gave with the approval of the (*village*) assembly four *paḍāgāras* to his younger brothers and six *paḍāgāras* to his younger paternal uncle's children. And the owners of the three parts with their united approval gave four *paḍāgāras* (*of land*) to the general (*Senāpati*) Eṇadi alias Sattan Sattan, who composed<sup>2</sup> this eulogy (*prastuti*).

(V. 18). The *ājñāpti* of this (document) was Maṅgalarāja, the very sweet (*madhuratara*) poet (*kavi*) and orator, well versed in the sciences, a Vaidya and a resident of Karavandapura.

(V. 19). Oh! Dharma! A (*learned*) man must render protection to the deeds of others. Indeed (*these are*) the feet acquired by (*i.e.*, on which stands) great fame. The world was all created by Dhātṛi (Brahman). Still kings desirous of merit protect the earth.

(V. 20). No gift is greater than the gift of land; nor is there a greater sin enjoined (*on man*) than (*that of*) resuming land (*already given*).

(V. 21). Oh! Gladdener of your race! He that makes a gift on this earth blesses (*his*) ten generations past and future; and he that takes away (*that which has been given*) destroys ten generations past and future.

(V. 22). To him that robs land given by himself or by others, there is no expiation anywhere except in the dreadful hell.

(V. 23). Lands have been given away by many. Different kings are ruling (*them*). The fruit (*of protection*) belongs to him whose land it happens to be (*at the time*). These four are verses in the Vaishṇava-Dharma.

(L. 151). "The flower-like feet of those who protect this (*charity*) shall be on my crown." The king himself was thus pleased to say and caused a copper-plate grant to be executed at once.

(L. 152). Śuttakēśari-pPerumbāṇaikkāraṇ who engraved this (*document*), and to whom were allotted through the favour of the great mon (*of the village*) one house site, two *mā* of (*wet*) field and one<sup>3</sup> dry field received (*the above*). This is the signature of Yuddhakēśari-Perumbāṇaikka[ra]ṇ.

<sup>1</sup> See above, p. 307. If we took Kōṅgarkōṇ as referring to the king of the Kōṅgas, the reason for Māraṅgāri taking part with the Kōṅga king will have to be explained. So far as we know, the Kōṅga king was an enemy of the Pāṇḍya and was on several occasions defeated by him.

<sup>2</sup> The word *paḍina* clearly indicates that the composition was in verse.

<sup>3</sup> Perhaps one *mā*.

## No. 17—THE NALANDA COPPER-PLATE OF DEVAPALADEVA.

BY HIRANANDA SHASTRI, M.A., M.O.L., OOTACAMUND.

This copper-plate was unearthed by me at Nālandā during the course of my archæological explorations of the well-known Buddhist site there in 1921. As I have already stated in my annual progress report for the year 1920-1921, where<sup>1</sup> I have given a tentative account of the document, the plate was found in the antechamber of the so-called monastery B which has yielded many interesting antiques testifying to its past glory. The debris round it and its encrustation showed that the plate must have suffered from the conflagration that destroyed the building in whose remains it lay buried for so many centuries. Fortunately, it has escaped destruction, and excepting a slight injury here and there, the whole of the record together with its seal is practically intact. It has been very carefully treated by the Archæological Chemist and has now become fairly readable.

The plate bears forty-two lines on the obverse and twenty-four on the reverse, each measuring about 1' 4" long, excepting the last line on the second side which is only 4" in length. The inscription is written in early Dēvanāgarī script and its language is Sanskrit. The formal part of the grant which it registers is in prose and the rest is in verse, excepting the words *om svasti* and *tathā cha dharmānuśāsanāślokaḥ*, written at the commencement of the first and the second side respectively. The seal, which the accompanying fac-simile illustrates, is soldered to the plate and bears the legend Śrī-Dēvapāladēvasya meaning "of the illustrious Dēvapāladēva", written below the emblem of the dharmachakra placed between two gazelles as in the seals of other Pāla kings. The wheel or dharmachakra symbolizes Gautama Buddha's unfolding the Law and the diffusion of knowledge to the world that was groping in darkness and the deer refer to the Mṛigadāva forest which is now represented by Sārṇāth near Benares where the 'Great Sage' turned 'the wheel' for the first time while delivering the great sermon to the five monks or 'Pañcharaggīyas'. That the Pālas adopted this symbol is but natural for we know that they were staunch Buddhists and patronised learning.

The introductory portion of the inscription, consisting of the first twenty-five lines, is identical with the similar portion of the Mungr (Monghyr) copper-plate grant of the same king that has been edited by the late Professor Kielhorn.<sup>2</sup> It enables us to remove the few doubts the said scholar had in his reading of the record. As is shown by the dates given in the two documents, the Nālandā grant is posterior to the other by some six years though both were issued from the same place, viz., Śrī-Mudgagiri-samāvāsi-śrīmaj-juyaskandhācāra or the victorious camp at Mudgagiri, the modern Monghyr in Bihār.

The inscription was written and engraved with considerable care; still a few inaccuracies are to be noticed in it. These have been pointed out in the footnotes added to the text below. As regards orthography, it resembles very much the other grant from Monghyr and there is, perhaps, little to be added to the remarks which Kielhorn made about it while editing the latter document. As to his statement<sup>3</sup> that "the only passages about which I am at all doubtful, and in which the rediscovery of the plate may prove me to have gone wrong are the words *suvinayinām* in line 5; *rājakuliya-samasta* in line 40 and *karahiranya* in line 45",—on the authority of this epigraph, I may say that his reading *suvinayinām* should be treated as wrong though the translation is right. This plate gives *sati kritinām* which must have been

<sup>1</sup> A. R. Central Circle, 1920-1921, pp. 37 ff.

<sup>2</sup> Ind. Ant., Vol. XXI, pp. 253-258.

<sup>3</sup> Ibid, p. 253.



the reading in the other document also, the sense being that as this king furnishes a living example people have to believe in the historical reality of the rulers like Pṛithu, Sagara, etc. The remaining two words, as is shown by this plate where they occur in line 35 and line 42, respectively, were correctly read by him.

The charter was issued by the devout worshipper of **Sugata** or **Buddha**, the *Paramēśvara-Paramabhaṭṭāraka* and *Mahārājādhirāja*, the illustrious **Dēvapālādēva**, the son and successor of **Dharmapāla**, who is regarded to have been the most powerful of the **Pāla** kings of Bengal. As I have just stated, its introductory portion is identical with that of the other grant and gives the genealogy of the donor which has already been discussed by scholars. The formal part of the grant, which the inscription registers, is worth considering. The wording is the same as we find in the other document. The officials mentioned are also similar, including the "*Pramātri*" and the "*Śarabhaṅga*"; excepting the "*Prāntapāla*" who is left out, though the order in which they are named is different. Amongst the names of the countries mentioned in line 35 of the Mungir (Monghyr) plate, this inscription puts *Ōḍra* in place of *Gauḍa* and omits *Lāṭa* altogether. Herein we are told that **Dēvapālādēva** at the request of the illustrious **Bālaputradēva** the ruler of **Suvarṇadvīpa**, made through an ambassador, granted five villages, four of which lay in the **Rājagṛiha** (**Rājgir**) and one in the **Gayā vishaya** (district) of the **Śrī-Nagarabhukti** (**Patna Division**) for the increase of merit and fame of his parents and himself for the sake of income toward the blessed Lord **Buddha**, for various comforts of the revered *bhikṣus* of the four quarters and for writing the *dharma-ratnas* or Buddhist texts (i.e. for the three jewels) and for the upkeep of the monastery built at *Nālandā* at the instance of the said king of **Suvarṇadvīpa**. The endowment, being entirely **Buddhist**, forms a distinctive feature of the grant and amply justifies the epithet of *parama-Saugata* applied to the donor. The four villages granted in the **Rājagṛiha vishaya** were **Nandivanāka**, **Maṇivāṭaka**, **Naṭikā** and **Hastigrāma** and the one in the **Gayā vishaya** was called **Pālāmaka**. As is usually the case in such grants, this part of the document ends with the date of the endowment which is the 21st day of **Kārtika** of the (regnal) year 39 and is written after the orders of the royal donor demanding regular payment of all the revenues due for the purposes noted above.

The second side of the plate first gives the well-known imprecatory and benedictory verses and, thereafter, introduces **Balavarmman** who acted as the *dūtaka* in this 'meritorious undertaking' and whom it describes as the 'overlord of **Vyāghrataṭi-maṇḍala**, ever ready to fight his foes independently.' Evidently he was the official of the King of Magadha entrusted with all arrangements to be made in connection with the grant. Then the inscription supplies, though unfortunately too meagre, an account of **Bālaputradēva**, the king of **Suvarṇadvīpa** at whose instance the endowment was made giving, also, some information regarding his ancestry. It is mainly in this connection that this document is specially interesting and possesses considerable international value. We learn that the dynasty to which **Bālaputra** belonged was that of the **Śailēndras**, who were Buddhists and held the island of **Java** under their sway about the eighth century of the Christian era or the Śaka year 700. The latter fact about the **Śailēndras** is already known from the **Kalāsan** inscription which has been published by Dr. (now Sir) R. G. Bhattacharya<sup>1</sup> and Dr. J. L. A. Brandes<sup>2</sup>. But this **Nālandā** copper-plate introduces to history for the first time **śrī-Bālaputradēva**, the **Śailēndra King of Suvarṇadvīpa** together with some of his relations, as well as the *dūtaka* (of the grant), namely, **Balavarmman**.

The illustrious **Mahārāja Bālaputradēva**, our inscription tells us, was the overlord of **Suvarṇadvīpa**. His mother was **Tārā**, the daughter of a King **Dharmasētu** of the lunar race and

<sup>1</sup> *Journal of the Bombay Branch of the Royal Asiatic Society*, Vol. XVII, Part II, for 1887, Art. I.

<sup>2</sup> *The Tijdschrift voor de Taal-, Landen-Volkenkunde van Nederlandsch Indië*, XXXI (1886), p. 240 sq.



the queen consort of the mighty king who was the son of the renowned ruler of "Yavabhūmi." The latter, we are told, was the ornament of the Śailendra dynasty and 'his name was conformable to the illustrious crusher or tormentor of his brave enemies'. Though the epigraph gives high praises for all these rulers, yet it contains no other information regarding their identity. The name of the father of Bālaputradēva is not given at all but the name of the grandfather is said to have been something like 'Śri-vīra-vairi-mathana', meaning 'the illustrious destroyer of heroic foes'. This would lead us to surmise that the name must have been one like Paramaraddi-dēva, Śatruñjaya, Arimaraddana, Arindama, etc., but what it really was I am not in a position to find out. The Yavabhūmi and the Suvarṇadvīpa are evidently identical with the Yavadvīpa and the Suvarṇadvīpa islands spoken of in Sanskrit works like the *Rāmāyaṇa*<sup>1</sup> or the *Kathāsaritsāgara*<sup>2</sup> and are unquestionably the modern Java and Sumatra. While speaking of Bālaputradēva as the king of Suvarṇadvīpa and his grandfather as the ruler of Yavabhūmi, the author of our inscription, apparently, took both the islands as one considering them practically united. As M. Duroiselle kindly tells me, the consensus of opinion, arrived at by scholars like Barth and Kern, is that Suvarṇadvīpa and Yavadvīpa are the same, that is Java-Sumatra. The document goes to confirm the view that Yavadvīpa is Java proper and that Suvarṇadvīpa is properly Sumatra. This Suvarṇadvīpa, however, is different from the Suvarṇabhūmi, which, as M. Duroiselle has kindly informed me, in its most extended sense refers to Indo-China, but, particularly, to the country extending beyond the eastern and northern coasts of the Bay of Bengal or Rāmaññadēśa (i.e., lower Burma).

Now the question which would present itself for solution is, who were the Śailendras mentioned in the plate? There are only two Javanese inscriptions in Nāgarī, known to me, which were issued by a king of the Śailendra dynasty. One of them, to which I have alluded above, commemorates the foundation of a temple of Tārā, the well-known Goddess of the Mahāyāna pantheon, the setting up of her image, and the building of a monastery in the year 700 of the Śaka era during the prosperous reign of a king of this dynasty<sup>3</sup> whose name to our regret is not forthcoming. The other<sup>4</sup> inscription is not yet published and the following information regarding it I owe to the courtesy of Dr. Bosch, Director of Archaeology in Netherlands-India. It comes from Klurak, a site between the Prambanam and Sewu-temples in Central Java and belongs to the Śaka year 704, the object being to commemorate the erection of an image of Mañjuśrī, another noted divinity of the Mahāyāna pantheon. In one of the lines of this inscription Dr. Bosch reads: *rājā dhṛitā dhṛitimatā dharaṇḍranāmna* and finds the king's name to be Indra, though one could take it to be Dharaṇḍra (earthly Indra) as well. Yet another inscription I know of, which is connected with this evasive race of the Śailendras, comes not from Java but from India and, like our Nālandā inscription, records the erection of a monastery and an endowment for it. It is engraved on twenty-one copper-plates now preserved in the Leyden Museum in Holland and belongs to the reign of the Chōla King Rājaraṇa-Rājakesarivarman (985-1013 A. D.). This highly interesting document tells us that the illustrious king Maravijayōttungavarman of the Śailendra dynasty and the lord of Śriviṣaya<sup>5</sup> caused to

<sup>1</sup> Canto IV, Chap. XL, St. 30, and the *Tilaka* commentary on these verses. Here we find that Java in remote antiquity formed a large principality which comprised not less than seven minor states.

<sup>2</sup> *Turnaga*, 57; *Sts.* 96, 134, 173, etc.

<sup>3</sup> राजे इन्द्रवर्मा राजः श्रीशैलेंद्रवंश तिलकाक्ष, Dr. Bhandarkar read in the sixth line of this inscription *Śailendravarmmanujaya* and thought that *Śailendravarmman* was the proper name of the father of the donor whose name he took to be Paramkaraya. The correct reading, however, as the late Dr. J. L. A. Brandes has shown, must be *Śailendravamañtilakasya*.

<sup>4</sup> Except these two inscriptions there exists a number of fragments of inscribed slabs, which according to Dr. Bosch, might be attributed to the Śailendra race but they are all too weather-worn to be deciphered.

<sup>5</sup> Dr. Hultzsch takes *Śrī-Viṣaya* of Tamil inscriptions as the equivalent of Śrī-Viṣaya (above, Vol. IX, p. 291).

be built a lofty and very beautiful monastery at **Nāgapattana**, the present port of **Negapatam**<sup>1</sup> and that it was endowed by the **Chōla** king **Rājārāja**, thus furnishing an exact parallel to the **Nālandā** monastery of our plate.<sup>2</sup> This **Śrīvijaya** is the same as the **San-fo-tsai** of the Chinese Annals and, according to **M. George Coedes**, must be identified with the kingdom of **Śrīvijaya** or **Palembang**, which is a residency of **Sumatra**.<sup>3</sup> The **Leyden** grant says that **Māravijayōttuṅgavarman** was the overlord (*adhipati*) of **Śrīvijaya** who, while extending the kingdom of **Kaṭṭha**, caused that monastery to be built in the name of his father. Thus on the authority of this invaluable record it becomes clear that, about the end of the 10th century **A. D.**, **Sumatra** was governed by the **Śailendra** dynasty to which king **Māravijayōttuṅgavarman** or his father **Chandāmānivarman** belonged. That both **Sumatra** and **Java** were under the sway of the **Śailendras** about the ninth century we glean from the **Nālandā** copper-plate inscription. That they were governed by the same dynasty in the seventh century of the Christian era we learn from the two inscriptions to which I have referred above. In one of the inscriptions<sup>4</sup> engraved on the south wall of the well-known temple at **Tanjore** we find that **Rājendra-Chōla** caught a king of **Kaṭṭaram**, named **Saṅgrāma-vijayōttuṅgavarman**, and took his vehicles as well as accumulated treasure. This king of **Kaṭṭaram** in the light of the **Leyden** grant was, probably, the successor of **Māravijayōttuṅgavarman**, the **Śailendra** king of **Śrīvijaya** spoken of in it. If the **Tanjore** inscription is to be trusted—I do not think there is any reason why it should not be—we can say that **Rājendra-Chōla**, while capturing the king, succeeded in conquering the kingdom of **Śrīvijaya** or **Palembang**. The **Leyden** plates tell us that he confirmed the grant made by his father **Rājārāja** for the monastery built by the **Śailendra** king **Māravijayōttuṅgavarman** or the predecessor of the very ruler whom he caught and dispossessed of heaps of treasures. This would lead us to surmise that **Saṅgrāma-vijayōttuṅgavarman** proved refractory and the **Chōla** King had to take the extreme step to bring him round. Here it may be remarked that in the documents, known at present, these **Śailendras** or the rulers of **Śrīvijaya** are nowhere mentioned as the feudatories of the **Chōlas** or other Indian kings. Building convents or *vihāras* in one's territory does not necessarily indicate tutelage<sup>5</sup> though it does show friendship or mutual regard. That the **Śailendras** founded monasteries in India at **Nālandā** or elsewhere certainly signifies their being fervent Buddhists. These *vihāras*, like the one founded at **Bodhi Gayā** by **Mēghavarṇa** of **Ceylon** during the **Gupta** epoch, gave shelter to their own people as well as others. **Dēvapālādēva** was a staunch Buddhist. He endowed the monastery, which **Bālaputrādēva**, the **Javanese** King, founded at **Nālandā**, at the latter's express request, communicated to him through a *datuka* or ambassador. But this fact alone cannot imply that the ruler of **Java** was a vassal of the King of **Magadha**. Though the capture of the King of **Kaṭṭaram** by **Rājendra-Chōla** in later days indicates submission no doubt, yet I think, to show that the **Śailendras** were really the feudatories of the **Chōlas**, proof is still wanting. Under the existing circumstances what we can safely assume is that the relations of these Kings were rather based on trade and traffic and were of a peaceful nature.

<sup>1</sup> It was probably this structure, which, as the late **Mr. Smith** has said in his *Early History of India*, 3rd ed., p. 466, survived in a ruinous condition until 1867, when the remains of it were pulled down by the Jesuit fathers and utilized for the construction of Christian buildings.

<sup>2</sup> The splendid convent built by King **Mēghavarṇa** of **Ceylon** at **Bodhi-Gayā** near the holy *Buddhruma* about the year **A. D. 360** with the permission of **Samudragupta**, the Great, affords another instance of this kind. For a brief account of it see **Smith's Ancient History of India**, 8rd ed., p. 287.

<sup>3</sup> *Encyclopædia Britannica*, XI ed., Vol. XXVI, p. 73. For mention of **Śrīvijaya** in an old **Malaya** inscription probably of the 7th Century **A. D.**, lately found in **Palembang**, see **Ph. S. Van Ronke's** notice in the *Acta Orientalia*, Vol. II, Part I, p. 21.

<sup>4</sup> *South-Indian Inscriptions*, Vol. II, pp. 105 ff.

<sup>5</sup> The late **Mr. Venkayya** (*A. S. R.*, 1911-12, p. 175), apparently, assumed that the **Śailendras** were feudatory to the **Chōla** Kings.

That close relationship must have existed between Coromandel and the Far East during the earlier centuries of the Christian era is pretty certain. The part played by Tāmrālipti or Tāmlūk as an important port in those days for the sea-borne trade between India and the Archipelago will similarly associate Bengal with the Far East. These Śailēndras were staunch Buddhists to whom all the magnificent Buddhist buildings which we find in Central Java, like the one which probably contained the Tārā image mentioned in the Chaṇḍi-Kalāsan inscriptions spoken of above, owe their origin. Now, the question is whether they were emigrants from India or were indigenous people of Java-Sumatra, who embraced Buddhism in preference to Hinduism. The Yūpa inscriptions of King Mūlavarmman from Koetei or East Borneo or other early epigraphical records, which have been brought to light from Champa, Cambodia or Indo-China by eminent French or Dutch savants, would show that India has had a considerable share in the colonization of the Far East. The Yūpa inscriptions, as Dr. Vogel has already pointed out in his very learned brochure,<sup>1</sup> inform us that the erection of the sacrificial posts on which they are engraved was due to the twice-born priests or Brahmans, who had carried their ancient civilization and religion to Borneo, as well as, to Java and Sumatra and that on these priests King Mūlavarmman conferred rich grants of gold and land; a fact showing that as early as about 400 A. D. high caste Brahmans or *Vipras* migrated to the Far East and settled there. Fa-Hien found Brahmans settled in Ye-poti (Java or perhaps Sumatra). Sumatran civilization and culture seem to be of Hindu origin. Sumatra was probably the first of all the Archipelago to receive emigrants from India.<sup>2</sup> The names like Coliya, Pandiya, Mēliyalā, by which some of the tribes that have settled in West Sumatra are known, and the fact that emigrants from India are designated by the term Kēling or Kling, which is clearly derived from Kalinga, would show that Southern India, including the Telugu country, had ample share in the colonization of the island or the Far East, as Dr. Vogel has already stated in his paper.<sup>3</sup> The matrimonial alliance mentioned in our Nālandā charter, which the father of Bālaputrādēva had with a mighty king of the Lunar race, would, perhaps, lead us to trace the origin of the Śailēndras of Java-Sumatra to India. If a conjecture can be hazarded, these Śailēndras were emigrants from Kalinga or say Southern India. I am not aware if the term Śailēndra was ever applied to any of the dynasties which ruled in the south<sup>4</sup> or any other part of India. It will be going too far to connect it with the Śailavarmśa<sup>5</sup> or the Śailōdbhavaśa<sup>6</sup> or other dynasties like the Śilāhāra having somewhat similar appellations. It may be pointed out, however, that the name of Malaiyamān, which is an exact Tamil rendering of the Sanskrit word *Śailēndra*, meaning 'the lord of mountain or mountains', is to be met with in some of the inscriptions discovered in the South Arcot and Salem districts of the Madras Presidency where it is applied to some chieftains, who flourished about the 10th century A. D. Tamil literature, however, knows of the Malaimāns, who might be attributed to the 7th and 8th centuries A. D. These chieftains were called Milāḍuḍaiyār or the rulers of Milāḍu, a contracted form of Malaiya-nāḍu or hill-country, and they claimed

<sup>1</sup> *The Yūpa inscriptions of King Mūlavarmman from Koetei* (East Borneo), p. 202.

<sup>2</sup> *Encyclopædia Britannica*, Vol. XXVI, p. 74. It may be incidentally pointed out that the statement made here in the *Encyclopædia* to the effect that Sumatra was called the first Java was caused by a wrong reading, as I learn from Prof. Krom through Dr. J. Ph. Vogel, and requires correction.

<sup>3</sup> *The Yūpa inscriptions*, etc., pp. 195-6.

<sup>4</sup> The late Mr. Venkayya (*A. S. R.*, 1911-12, p. 175) was inclined to connect them with some part of Orissa apparently on account of the similarity of names like Śailavarmśa and Śailēndravarmśa, pp. 42 ff. For Śailavarmśa, see *Ep. Ind.*, Vol. IX, p. 283 and *J. B. A. S.*, Vol. LXXIII (1904, p. 2 282 f.)

<sup>5</sup> *Ep. Ind.*, Vol. VI, p. 42.

<sup>6</sup> *Ibid.*, Vol. XI, p. 282.

connection with the Chēdi family<sup>1</sup>. It is also noteworthy that sometimes their names end in *varmman*<sup>2</sup>. From the records noticed above we find that the names of the Śailēndras of Java-Sumatra or Śrīvijaya ended in *varmman*.<sup>3</sup> The name of the Śailēndra ruler given in the Nālandā plate on the other hand ends in *dēva*. This looks rather strange. The name Bālaputra itself, signifying 'young son' is curious. This ending of *dēva*, however, occurs only in the prose and formal portion but not in the other or metrical portion, which describes and eulogises these Śailēndras. This would go to suggest that the suffix was left out because the metre did not require it, or possibly because, it did not form an integral part of the name and would have been replaced by *varmman*, a general suffix or surname of the ruling caste or the Kshatriyas. The name, however, is pure Sanskrit as is the name of Tārā the mother of Bālaputradēva, or Dharmasētu, her father, and would point to emigration from India. Had the names of the two ancestors of Bālaputradēva, that is to say, his father and grandfather, been given, we could be definite in the matter, for, if these names were un-Indian, as in the case of Kuṇḍinga, his son Aśvavarman and grandson Mūlavarman of Borneo, we could conclude that the Sanskrit names must have been taken after conversion to Hinduism, or rather Buddhism. But in none of the names of the Śailēndras do we find any foreign sound at all, suggesting that they were the natives of the islands originally and came into the fold of Buddhism afterwards.

The names of the Pāla kings and other personages mentioned in the introductory portion of this grant have been dealt with by Kielhorn or other scholars in connection with the contents of the Muṅḍir copper-plate inscription. So I need not notice them here. But, besides them and the Śailēndras, our record speaks of two more persons and they require special mention. One of them is Dharmasētu whom the inscription describes as a scion of the Lunar race and the father of Bālaputradēva's mother, namely, Tārā. To our regret it does not supply any other particular regarding him and it is hardly possible to identify him or to say

<sup>1</sup> Mr. K. V. Sabrahmanya Ayyar, to whom I am indebted for this information, has kindly given me the following note on the Malaiyamāns :—

"Ancient Tamil works mention the names of a number of Malaiyamān chiefs, who might be attributed to the 7th and 8th centuries A. D. Some of these are :—(1) *Malaiyamān* Tirumūḍikkāri, (2) *Malaiyamān* Śōḷiya-Enādi Tirukappan, (3) *Malāḍar-Kōmṣu* Meypporuḷ-Nāyanār and Narasiṅga-Munaiyariyar of Tirumūḍippāḍi. Their capital was Tirukollur, the head-quarters of a *taluk* in the South Arcot district and a railway-station in the Kāṭpāḍi-Viḷuppuram section of the South Indian Railway. It is said to have been situated within the Chēdi country.

The Malaiyamān chiefs appear to have been rendering help to one or the other of the principal powers of the South, *viz.*, the Chēra, Chōḷa, Pāṇḍya and the Pallava. Narasiṅgamunaiyariyar was a contemporary of the Śaiva saint Sundara-Mūrti-Nāyanār of the 8th century A. D. : he is counted as one of the canonised 63 Śaiva devotees of the Tamil country. In the account given of No. 3, in the Tamil hagiology, *Periyapurāṇam* figures a Tattan, whose name may be regarded as a variant of Datta. Besides, one of the poems of the Tamil anthology, *Pattuppāṭṭu* was composed in honour of a certain "Ārya King Piragadattan (Bhṛigu-Datta)". It may be noted that the Malaiyamān chiefs belonged to the Bhṛigu race as is evidenced by their inscriptions. Epigraphical reference to Narasiṅhamunaiyariyar is found in the Tanjore inscriptions of the Chōḷa King Rājārāja I (A. D. 985-1013). In an early stone record of Rājākēśarivarman found at Tirunāgēśvaram near Kumbakonam, of about the 9th century A. D. mention is made of Milāḍuḍaiyar-paḷḷi.

It is interesting to note that the later members of the Malaiyamān family, who figure in numerous stone inscriptions, call themselves invariably Chēdiyarāyas (Chedirājas) and they are mostly subordinates of the Chōḷas of the 10th to the 13th centuries A. D. The appellation *Chēdiyarāyan*, assumed by almost all the chiefs, if it is not a mere accident, as it could not be, must indicate that they were the rulers of the Chēdi country. This fact taken with the names like Datta would make one infer a colonisation at some remote past of a branch of the line of Chēdi Kings, in the South Arcot district, where we find them."

<sup>2</sup> E. Hultzsch, *Ep. Ind.*, Vol. VII, pp. 185 and 145.

<sup>3</sup> Dr. Vogel in the aforesaid publication (page 194) remarks :—"Considering that among the dynasties of India proper there is a great variety of such royal surnames, as *āditya*, *gupta*, *chandra*, *dēvapāla*, *rāja*, *vardhana*, *śaśana*, and *śena*, the almost universal employment of names in *varmman* in the Far East is certainly very remarkable." The instance of our Bālaputradēva will furnish an exception.

whether he was an Indian king or some ruler in the Far East. The name whether it is read as Dharma or Varma-*śetu* appears to be new. The other interesting name occurring in the document is that of **Balavarman** the ruler of *Vyāghrataṭi-maṇḍala*, who acted as *dātaka* on behalf of the Magadhan king. As to why he was selected or what special connection he had with the ruler of such a remote island as Sumatra or Java, and whether he had been there or known personally to that king our inscription makes no mention. Apparently, there was no direct political relationship between the two; for, we know from the Khalimpur<sup>1</sup> plate of Dharmapālādēva that the *Vyāghrataṭi-maṇḍala* lay within the *bhukti* of Puṇḍravardhana, which was under the sway of the Pāla king Dharmapāla and, evidently, of Dēvapālādēva after him. Puṇḍravardhana is the same as Paupḍravardhana—Puṇḍra and Paupḍra being synonymous—which is the modern Rājshāhi district of Bengal<sup>2</sup>. The use of the word *adhipati* would indicate that in this instance at least the term *maṇḍala* connotes a larger area than *viśaya*, which in the majority of cases seems to include a *maṇḍala*<sup>3</sup>. During the reign of Dēvapālādēva, *Vyāghrataṭi* was governed by a distinct ruler called **Balavarman**. The way in which he is praised in this epigraph, as the right arm of the Emperor, would show that he had a high rank even though he was one of the feudatories of Dēvapālādēva. As, however, our plate gives no genealogy or particulars about him his personality is very vague. A few homonymous<sup>4</sup> rulers are known to have flourished about that time but they appear to be quite different personages and even their dates will not agree with that of this plate. It looks curious that though the charter mentions the *dātaka* of the King of Magadha yet it leaves the ambassador or ambassadors of the Javanese King unnamed altogether.

The vague manner in which the inscription describes the rulers of the Far East or Sumatra-Java and their relative king of the lunar race would show that its author did not know much of them. He knew of Bālaputrādēva and his mother Tārā. The latter he compared to the goddess of that name. It is not improbable that the grant registered in the epigraph was made chiefly at her instance.

Our plate mentions several places calling for remarks. Out of these, I have already noticed three, namely, *Suvaranṇadvīpa*, *Yavabhūmi*, and *Vyāghrataṭi*. Of the remaining ones *Nālandā* is the most important. The way, in which this record speaks of it, would show that it continued to be as important a centre of Buddhist lore as it was during the time of Hiuen Tsang's visit. The spelling of the name given in this document is *Nālandā* which is the correct way of writing it. The same spelling is given in a votive inscription on the image of

<sup>1</sup> *Ep. Ind.*, Vol. IV, pp. 243 ff. *J. B. R. A. S.*, LXIII (1894), pp. 39 ff.

<sup>2</sup> Smith *Early History of India*, p. 373. As has already been stated by Cunningham (*A. S. R.*, Vol. XV, pp. 112 ff.) Kāntāra is another name of Puṇḍra or Paupḍra, i.e., sugarcane, and the Mahākāntāra of the Allahabad inscription of Samudragupta, the Great, was probably an older name of this province which, about the middle of the fourth century of the Christian era, was governed by a King Vyāghra. Thus it does not appear to be improbable that the district of *Vyāghrataṭi* or the tiger's precipice—unless of course *vyāghra* is taken in the sense of castor oil in which case the word *Vyāghrataṭi* would be the slope marked or overgrown with castor plants,—was named after this tiger king.

<sup>3</sup> This would rather show that no mistake was made in the text of the Khalimpur grant and that Kielhorn's statement in the *Ep. Ind.*, Vol. IV, p. 253, footnote 3 that it was, will be obviated.

<sup>4</sup> For instance we know of a Balavarman, the lord of Prāgyōtisha (Gauhati or Assam) from the Nowgong copper-plate (Dr. A. F. Hoerulo, *J. B. A. S.* LXVI, pp. 285 ff.) and another of Kārūsha or rather Brūhadgriha (Kielhorn; *Ind. Ant.* Vol. XX, pp. 123 ff.). On palaeographic grounds the former of the two has been assigned to the last quarter of the 10th century or say nearly one century later than the date of Dēvapālādēva. The other is too little known to admit of identification. The third ruler of the name, who will synchronise with our document, was the father of Avantivarman II, who was the feudatory of Mahēndrapāla of Kanauj (cir. 890 A. D.). To think of identifying him with the Balavarman of the Nālandā plate will be altogether unreasonable, for he was the ruler of Kathiawar, or Saurāṣṭra and a feudatory of the formidable rival of the monarch of Bengal.

*Samkarshana* which was dug out of the same site<sup>1</sup> and the newly discovered statue of Tārā. It again occurs not only in some Jaina writings but such an old work as the *Dīghanikāya*<sup>2</sup>. However, it seems to be noteworthy that none of these works called Nālandā a university but only a prosperous town though Hsuen Tsang describes it as if it were a University. The way in which it is described in our plate would show that it was really a centre of Buddhist learning.

As to the remaining place-names mentioned in this document, I think, Śrīnagara or Śrinagara-bhukti must be identified with modern Patna, which as a district, includes Rājagriha (Rājgir) and, as a division or commissionership, comprises the district of Gayā, even now. It is true that in the Khalimpur grant of Dharmapāladeva, which has been referred to above, the name given for the city is Pāṭaliputra and not Śrīnagara or Nagara, still, I think, there were two designations, the one, viz., Pāṭaliputra, which meant the whole town and the other, viz., Śrīnagara, the main part of it, like the Bankipore of to-day. Nagara means the chief town generally, but in this case it meant the town, the prefix Śrī implying prosperity or wealth of the town. In other words Pāṭaliputra was the *pattana*<sup>3</sup> and the seat of Government, especially in earlier days during the supremacy of the Mauryas or the Imperial Guptas,<sup>4</sup> lay there, and Śrīnagara was its principal portion where the office of the *bhukti* or division was situated. One was concerned with the whole government but the other only with eight hundred<sup>5</sup> villages coming in its jurisdiction or *bhukti*. Thus Śrīnagara must have been a part of the whole which was termed Pāṭaliputra.<sup>6</sup> That, apparently, is the reason why the latter and not the former appellation of the town is to be met with in literature.

That Rājagriha and Gayā are respectively the Rājgir and Gayā of to-day requires no demonstration. The latter is a district still, though the former has now dwindled into a ruined town of the Bihār subdivision of Patna.

Regarding the villages which formed the object of the grant or endowment registered in the charter, we are told that Nandivanāka and Maṇivāṭaka were situated in the Ajapura-naya subdivision, Naṭikā in the Pilipinkā, and Hastigrāma in the Achalā-naya or subdivision of the Rājagriha *viskaya* or district, and that Pālāmaka was situated in the Kumudasūtra *vithi*, a subdivision of the Gayā district. If similarity of sound can be depended on, I would propose the following identifications to which proximity of Nālandā will lend a great support. The Ajapura 'naya' or subdivision of the inscription may possibly be represented by the Ajaipur<sup>7</sup> village in the Ajai Hisse Chahāram Mauzā in the Bihār Thānā and the two villages Nandivanāka and Maṇivāṭaka, granted in it, would be the Nadiune or Naunvan and Manianwan villages of these days, which are included in the Bihār Thānā. Pilipinkā I am inclined to identify with the Pilkhi or Pilkee Mauza and the Naṭikā village with the Nai Pokhar of to-day, both lying in the Silāo Thānā. Though I am unable to offer any identification for the ancient Achalā yet, I fancy, the village Hasti or Hastigrāma of the grant might be the Hethoa Bighā village of the Bihār Thānā if not the Hathi Tolā of the Maner Police subdivision. The old village directory<sup>8</sup> of the Gayā district available to me does not, apparently, give any name

<sup>1</sup> See my *Annual Report of the Central Circle*, (Patna), for 1921, p. 5 and *J. B. B. O. R. S.*, Vol. X, pp. 30 ff.

<sup>2</sup> Vol. I, pp. 1 & 211-12.

<sup>3</sup> Cf. 'प्रधानभूत नगरम्'; Bharata quoted in the *Sādhakalpadrūm* under 'Nagara'.

<sup>4</sup> Cf. 'पुनर्न नृप राजधानी स्थिता' and 'नगरसदृशतद्वानमध्यं तद्व्यवहारस्थानम्'; Yaśōdhara in his *Jayamaṅgalā* on the *Kāmasūtra* of Vātsyāyana (N. S. Edition), p. 44.

<sup>5</sup> Even in the Khalimpur grant the *Śrīmajjajayaskāndhātāra*; or 'royal camp or headquarters' lay at Pāṭaliputra. For the meaning of this expression cf. V. Smith's *Early History of India*, p. 398 and footnote 3.

<sup>6</sup> Similarly, I would identify the 'nagara-bhukti' of the 'legend on the seal', which, Dr. Spooner discovered during his explorations of the site (see his *A. P. R. (E. C.)* for 1916-17, p. 48) with the Śrīnagara-bhukti of this document.

<sup>7</sup> *Village Directory of the Presidency of Bengal*, Vol. XXVI (Patna District).

<sup>8</sup> *Village Directory of the Presidency of Bengal*, Vol. XXVII (Gayā District).



resembling the Kumudasūtra (or sūtra) or the Pālāmaka of our record and I refrain from offering a conjecture regarding their identity.

In connection with these place-names, it is interesting to note, that our document supplies one or two territorial terms, which appear to be new. The term *maṇḍala*, as I have remarked above, is here used, as in the grant of Amma II,<sup>1</sup> in the sense of *dēśa*, of which *viśaya* was a subdivision. The word '*vīthi*', which generally signifies a market, road-way or the like, appears to have been used, in this charter, in the sense of a division smaller than *viśaya*. Similarly the term '*naya*' seems to imply a like division. The use of these terms would show that *bhukti* was divided into *maṇḍalas* which were subdivided into *viśayas*, the latter being again portioned into *vīthi*s or *naya*s.<sup>2</sup> It is noteworthy that our document employs the term *naya* in the case of Rājagriha *viśaya* and *vīthi* in the case of Gayā *viśaya*. The former occurs regularly after (1) Ajapura, (2) Pilipikā and (3) Achalā, which lay in the district or *viśaya* of Rājagriha, while the latter term is to be found in connection with the district or *viśaya* of Gayā only. This would indicate that in the two *viśayas*, which were so contiguous to each other, there were, probably, different subdivisions made, apparently, for revenue purposes, Rājagriha being subdivided into *nayas* and Gayā into *vīthi*s. Thus, we can say that the villages Nandivanāka and Manivātaka lay in the subdivision or *naya* of Ajapura, Naṭikā in the *naya* of Achalā, all these falling within the Rājagriha *viśaya*. The village of Pālāmaka, on the other hand, which belonged to the district or *viśaya* of Gayā, lay in the subdivision of Kumudasūtra, i.e., Kumudasūtra-*vīthi*.<sup>3</sup>

#### TEXT.

##### Obverse.

Metres used : *Sārdūlavikrīḍitam* in vv. 1, 7, 8, 13, 14, 30, 31, 32, 33; *Praharṣiṇī* in vv. 2, 26; *Vamśastha* in v. 3; *Upajāti* in v. 4; *Indravajrā* in v. 5; *Aupachohhandasikam* in v. 6; *Āryā* in vv. 9, 11, 22, 23; *Harinī* in v. 10; *Kathōddhatā* in vv. 12, 15; *Anuṣṭubh* in vv. 16, 17, 18, 19, 29; *Vasantatilakā* in vv. 20, 24, 25, 27, 28; *Pushpitāgrā* in v. 21; *Sragdharā* in v. 34.

1 श्री स्वस्ति । सिद्धार्थस्य परार्थसुखितमतेस्वप्नार्णम[भ]-

2

स्वत-

स्तिष्ठिस्तिष्ठिमनुत्तरां भगवतस्तस्य प्रजासु क्रिया-

3

तु[1\*]

यस्त्रैधातुकसत्त्वसिद्धिपदवीरत्युपवीर्योदया-  
स्त्वित्वा

4

निर्हतिमाससाद सुगतस्त्वार्थभूमोऽक्षरः- [1\*10] श्रीभाव्यन्द-

5

दतुलं त्रियस्रपत्न्या

गोपालः पतिरभवद्वसुन्धरायाः [1\*]

<sup>1</sup> *Ind. Ant.*, Vol. VII, p. 16; cf. Fleet, C.I.I., Vol. I.I., p. 32, footnote 7.

<sup>2</sup> It may be noted here that the term *vīthi* is also used in the sense of a division in the Ghughrāṭi plates of Samāchārādēva which have been edited by Mr. R. D. Banerji, in the August 1910 number of the *Journal of the Asiatic Society of Bengal*. Mr. Bhaṭṭasālī, who is re-editing the grant for this journal, seems to take the word in its usual sense, but, in the light of this Nālandā document, his rendering cannot hold good.

<sup>3</sup> The reading can also be *sūtra*.

<sup>4</sup> Expressed by a symbol.

<sup>5</sup> Kielhorn has 'स्तिर'.

6

ह-

ष्टान्ते सति कृतिनां सुराणि यस्मिन् अचेयाः पृथुसगरादयोऽप्यभूवन् ॥२॥  
विजित्य येना जलधेर्वसुन्धरास्त्रिमोचिता

7

मोचपरिग्रहा इति ।

सवाप्यसुहाप्यविकीचनाग्न्युनर्वनेषु व(व)न्धूदहग्रन्तकृजाः ॥३॥ चक्षस्त्र-  
नग्नेषु व(व)लेषु यस्य विश्वभरा-

8

या निश्चितं रजोभिः ॥<sup>1</sup>

पादप्रचारक्षममन्तरिक्षस्त्रिद्विजमानां सुचिरम्ब(म्ब)भूव ॥४॥ शास्त्रार्थभाजा  
चक्षतोनुशास्य वर्णार्थप्रतिष्ठापय-

9

ता स्वधर्मैः ॥<sup>2</sup>

श्रीधर्मपालेन सुतेन सोभूत्स्वर्गस्थितानामवृणः पितृणाम् ॥५॥ अचक्षे-  
रिव जङ्गमैर्यदीयैर्विचक्षन्निर्दिष्टैः कदर्यमाना ।

10

निरुपप्लवमम्ब(म्ब)रं प्रपेदे शरणं रेणुनिमेन भूतधात्रो ॥६॥ वेदारे  
विधिनोपयुक्तपयसां गंगासमेते<sup>3</sup>म्बु(म्बु)धौ ।<sup>4</sup> गोकर्णदिषु चाप्यनुष्ठि-

11

तवतान्तीर्येषु धर्म्याः क्रियाः ॥<sup>5</sup>

भूत्वानां सुखमेव यस्य सकलानुदृष्ट्य दुष्टानिमात्रलोकाप्ताधयतो<sup>6</sup>नुषङ्गजनिता  
सिद्धिः परचा-

12

प्यभूत् ॥७॥

'तैस्तैर्दिग्भिजयावसानसमये संप्रेषितानां परैः सत्कारैरपनीय खेदमखिलं स्वां  
स्वां गतानां भुवम् ॥८॥ कृत्यं भावयतां

13

यदीयमुचितं प्रीत्या नृपाणामभूत्

सोत्कण्ठं हृदयं दिव्ययुतवतां जातिस्रराणामिव ॥९॥ श्रीपरव(व)क्षस्त्र  
दुहितुः क्षितिपतिना रा-

14

इकूट<sup>7</sup>तिक्षकस्य ।

रथदेव्याः पाण्डिर्जगृहे गृहमेधिना तेन ॥१०॥ धृततनुरियं सख्योः  
साक्षात्क्षितिर्गुं शरीरिणी ।<sup>8</sup> किमवनिपतेः कीर्तिर्म-

<sup>1</sup> Two strokes in place of one.

<sup>2</sup> Symbol for न् at the end of a *pāda* is peculiar.

<sup>3</sup> Kielhorn has सुमेता<sup>0</sup>.

<sup>4</sup> This *daṇḍa* could be left out.

<sup>5</sup> Kielhorn has तैर् तैर् which cannot be correct.

<sup>6</sup> The way of writing the letter ट् is peculiar.

This *daṇḍa* could be left out.



15

सौधवा गृहदेवता[1\*]

इति विरुधतो युष्माक[रा\*] वितर्कवतीः प्रजाः प्रकृतिगुह्यार्थं श्रुतान्त-  
हुणैरकरोदधः ॥[१०॥\*] आम्ना प्र(प)तिप्रताम्नो सु-

16

तारजं समुद्रशक्तिरिव ।

श्रीदेवपालदेवसुसन्तवज्जं सुतमसूत ॥[११॥\*] निर्मोक्षो मनसि वाचि  
संयतः ।<sup>1</sup> कायकर्मनि(णि)च यः स्मितः यचो[1\*]

17

राज्यमाप निरुपपन्नवम्पितुर्वी(वी)धिसरव इव सौगतं पदम् ॥[१२॥\*]

भाम्यस्त्रिर्विजयक्रमेण ।<sup>2</sup> करिभिस्तामेव विध्याटवीसुहृदाम्भवमानवा(वा)व्यपय-

18

[सो] दृष्टा; पुनर्व(र्व)\*श्ववः[1\*]

कश्यो(म्नो)जेषु च यस्य वाजियु[व\*]भिर्ध्वस्तान्यराजौजसो देवामित्रतद्वारि-  
हेषितरवाः कान्ताश्चिरप्रोषिताः<sup>4</sup> ॥[१३॥\*]; यः पूर्व व(व)लि-

19

ना कृतः कृतयुगे येनागमद्गर्गव-

स्नेतायां प्रकृतः प्रियप्रणयिना कर्णेन यो दापरे । विच्छिन्नः कलिना  
प्रकटिषि गते कालेन लोकात्त-

20

रम्

येन त्यागपथस्त एव हि पुनर्विषयसुभीलितः ॥[१४॥\*] आ गङ्गागम-  
महितास्तपन्नशून्यामासितु(तो):<sup>5</sup> प्रथितदशास्वकीतुकीर्त्तः[1\*] उर्वीमा वदन्-

21

निवेतनाच्च सिन्धो-

रा कश्यीकुलभवनाच्च यो वु(वु)भोज ॥[१५॥\*]

स खलु भागीरथोपथप्रवर्त्तमाननानाविधनौवाटकसंपादितसितुव(व)श्वनिहित[श्री]-

22

लशिखरत्रेणिविभ्रमात्<sup>6</sup> निरतिशयधनघनाघनघटा(टा)श्यामायमानवासरलक्ष्मी-  
सम्प्राप्त(म्न)संततमन्त्रदसम्प्राप्तदेवता<sup>7</sup> उदीचीनानेक-

23

नरुपतिस्तद्विज्ञानाप्रमेयव्यवस्थिनी

खरखुरोरखातधूलीधूसरितदिगन्तरासात् परमेश्वरसमस्तमायताश्वेसुमं(व)वी-

24

पभूपाल-

पादातभरनसद्वतीः श्रीसुप्रगिरिसम्भवाप्तिश्रीसज्जयन्त्यावारयत् परमसौगत-  
परमेश्वरपरमभटा(डा)रकस-

<sup>1</sup> This *daṇḍa* could well be omitted.

<sup>2</sup> This *daṇḍa* is unnecessary.

<sup>3</sup> Kielhorn gave वाश्ववाः

<sup>4</sup> Kielhorn has चिरं वीक्षिताः

<sup>5</sup> Kielhorn read सेती; and remarked that the lithograph he used gave *seti* (or *dhētū*). This inscription removes the possibility of *dhētū*. The reading must be सेती:

<sup>6</sup> Read "नामिह".

<sup>7</sup> Read "देवापुदीपो".

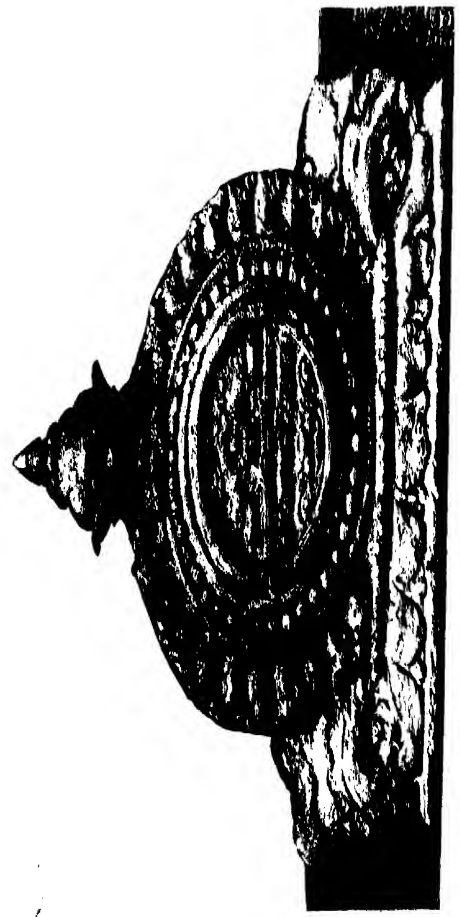
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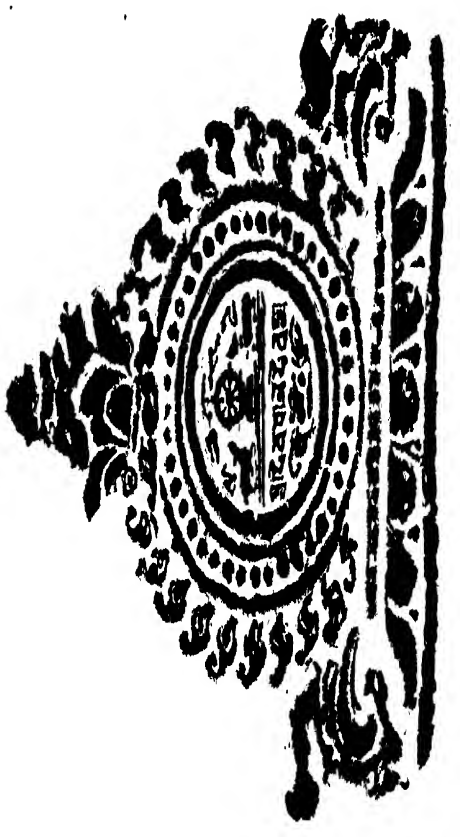
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SEAL



HALF SIZE

(FROM IMPRESSION.)



25

हाराजाधिराजश्रीधर्मपालदेवपादानुध्यातः

परमसीनतः परमेश्वरः परमभटा(हा)रको महाराजाधिराजः श्रीमान्देवपा-

26

लदेवः

कुमारी । श्रीनगरभूक्तो राजगृहविषयान्तःपाति अजपुरनयप्रतिव(ब)ह-  
स्वसम्ब(स्व)हाविष्ण्वतलोपित । नन्दिनकाक । मणि-

27

वाटक । पिल्लिपिष्कानयप्रतिव(ब) नटिका । अ-

चलानयप्रतिव(ब)ह इ[स्ति]ग्राम । गयाविषयान्तःपातिकुसुदसू<sup>1</sup> श्रीवीथी-  
प्रतिव(ब)ह पालाम-

28

कग्रामेषु । समुपगताम्(न्) सर्वानिव राज-

राजक । राजपुत्र । राजामात्र । महाकात्तिक । महादण्डनायक ।  
महाप्रतीहार । महा-

29

सोमन्त ।

महादोःसाधसाधनिक । महाकुमारा[मा\*]त्य [1\*] प्रमाद । शरभङ्ग[1\*]  
राजस्थानो । श्रीपरिक<sup>2</sup> । विषयपति [1\*] दायापराधिक । श्रीरोह-  
र-

30

शिक । दाण्डि-

क [1\*] दाण्डपात्रिक [1\*] श्रीस्तिक [1\*] [गौ]रिमक । चेषपाल [1\*] कोटपाल ।  
खण्डरक्ष [1\*] तदायुक्तक । विनियुक्तक । हस्तश्रीङ्गनीव(ब)लव्याप-

31

तक[1\*]

किशोरवडवागोमहिष्यधिकृत । दूतप्रे[ष]णिक । गमागमिक । अभित्व-  
रमाणक । तरिक । तरपतिक । श्रीद्र(ड्र)-मालव-खश-कुलिक । कर्णा-

32

ट [ह]ण ।

चाटभ[ट\*]सेवकादीनन्यांश्चाकीर्त्तितान् स्वपादपद्मोपजीविनः प्रतिवासि-  
नश्च ब्रान्ध(ब्राह्म)णोभरान् महत्तमकुटुम्बि(म्बि)पुरोगमेदान्-

33

क । चण्डाल-

पर्यन्तान् समान्नापयति विदितमस्तु भवेताम् यथीपरिलिखितस्वसम्ब(स्व)-  
हाविष्ण्वतलोपित नन्दिनकाकग्राम । मणिवाट-

34

कग्राम ।

नटिकाग्राम । इस्तिग्राम । पालामकग्रामाः स्वसीमातुण्युतिगोचरपर्यन्ताः  
सतलाः सीहेशाः साममधुकाः सजकस्थ-

35

लाः

सोपरिकराः सदशापराधाः सश्रीरोहण्याः परिहृतसर्व्य(पीडाः) अचाटभटप्रवेशा  
अकिंचित्प्रया[ह]राजकुलीय-<sup>1</sup> The symbol which has been read as च may be नु<sup>2</sup> The *danda* between नी and श्री was meant to be put after ह to separate the word from the following *uparik*.

36

समस्तप्रत्न्यायसमिता भूमिष्ण-  
द्वन्धायेनाचन्द्रार्कचितिसमकालम् पूर्वदत्तभुक्तभुज्यमानदेववृ(त्र)क्षदेयवर्जिताः  
मया

37

मातापिचोरात्मन[च] पुण्ययशोभिदृष्टये ॥  
सुव[र्ण]होपाधिपम[हा]राजश्रीवा(वा)सपुत्रदेवेन दूतकसुखेन वयस्मिन्ना-  
पिताः यथा मया

38

श्रीनालन्दायाम्बिहारः कारितस्तत्र  
भगवतो वु(वु)सभहारकस्य प्रज्ञापारमितादिसकलधर्मनेत्रीस्थानस्वायार्थे तांन(चि)-

39

कवो(बो)धिसत्वगणस्याष्टमहापुरुषपुद्गलस्य  
चातुर्हिंशार्थभिक्षुसङ्घस्य व(व)सिचरुसचचोवरपिण्डपातशयनासननक्तानप्रत्ययभे-

40

वज्जात्यर्थ धर्म-  
रत्नस्य लीखनात्यर्थ विहारस्य च खण्डकुटितसमाधानार्थ शासनीकृत्य  
प्रतिपादित[1\*]: यतो भवद्भिः सर्वैरेव

41

भूमेर्दानपाल[न\*]गौरवादपहरणे  
च महानरकपातादिभयादानमिदमभ्यनुमोक्ष पालनीयं प्रतिवासिभिरध्यान्नाश्र-

42

वणविधेयै-  
र्भूत्वा यथाकालं ससुचितभागभोगकरहरिण्यादिप्रत्न्यायोपनयः कार्य इति ॥  
सम्बत् ३८ क(का)र्तिक दिने २१

Reverse.

43

तथाच धर्मानुग्रह'नसन्नोकाः  
व(व)दुभिर्वसुधा दत्ता राजभिः

44

सगरादिभिः[1\*]  
यस्य यस्य यदा भूमिस्तस्य तस्य तदा फलम् ॥[१६॥]

45

सदत्ताम्यरदत्तात्वा [यो] व[र]त वसुधरा ।  
स विष्टायां क्षमिर्भूत्वा पितृभिः

46

सह पश्यति ॥[१७\*॥]  
दक्षिण्वर्षसह[सा]णि स्वर्गे मीदति भूमिदः । चाक्षेता चानुमन्ता च  
तान्येव

47

गरके वसित् ॥[१८\*॥]  
अन्यदत्तां विजातिभ्यो यत्नादृष्टं बुधिष्ठिर । महीं महीक्षतां चेष्ट दा-

48

नाञ्छेयो तु पासनम् ॥[१८\*]॥

अस्मत्कुलक्रममुदारमुदा[ह]रन्निरन्धेय दानमिदमभ्यनुमोदनीयं । सत्प्रग्राह-  
चित्तलिलवुद्बुद[चं]-

49

चलाया

दानं फलं परयशःपरिपालनं च ॥[२०\*]॥ इति कमलदलाद्भु(म्बु)वि(वि)-  
न्दुलोकां त्रियमनुचिन्त्य मनुष्यजीवितं च [१\*] सकलमि-

50

दमुदाहृतं च बु(बु)[ध्वा]

न हि पुरुषैः परकीर्तयो विलोप्याः ॥[२१\*]॥ दक्षिणभुज इव रात्रः  
परव(ब)लदलने सहायनिरपेक्षः ।[१\*]

51

दूत्यं श्रीव(ब)लवर्मा विदधे धर्माधिकारे<sup>१</sup>ऽस्मिन् ॥[२२\*]॥

अस्मिन् धर्मारम्भे दूत्यं श्रीदेवपालदेवस्य । विदधे श्रीव(ब)लवर्मा  
व्याघ्रतटीमण्डलाधिपतिः ॥[२३\*]॥

52

आसीदशेषनरपालविलोलमौलि-

मालामणिद्युतिविवो(बो)धितपादपद्मः । शैलेन्द्रवंशतिलको यवभूमिपालः  
श्रीवीरवैरिमघना-

53

गुगताभिधानः ॥[२४\*]॥

इर्म्यस्थलेषु कुसुमेषु मृणालिनीषु शङ्खेन्दुकुन्दतुङ्गिनीषु पदन्दधाना । निःशेष-  
दिक्षुखनिरन्तरलम्ब(म्ब)गीतिः

54

मूर्त्तेव यस्य भुवनानि जगाम कीर्तिः ॥[२५\*]॥

मूभक्ते भवति नृपा<sup>२</sup>स्य यस्य कोपात्रि[भि]न्नाः सङ्घ इदयैर्हिषां  
त्रियोपि । वक्राणामि-

55

इ हि परोपघातदक्षा

जायन्ते जगति भूष<sup>३</sup>ङ्गतिप्रकाराः ॥[२६\*]॥ तस्याभवत्तयपराक्रमशोलमाली  
राजेन्द्रमौलिग्रतदुर्लङ्किताङ्घ्रि-

56

युग्मः ।

सूनुयुधिष्ठिरपराशरभीमसेनकर्णार्जुनार्जितयथाः समराग्रवीरः<sup>४</sup> ।[२७\*]॥  
उद्धूतम<sup>५</sup>म्ब(म्ब)रतलाघ(द्यु)धि सञ्चरन्त्या यत्नेनयावनिरजःप-

57

टलं पदोत्थम् ।

कर्णानिलेन करिणां शनकस्वितोरण्णखलीमदजलैः शमयाम्ब(म्ब)-  
भूय ।[२८\*]॥ अक्षयपञ्चमेवेदमभूद्भवनमण्डलं ।

<sup>१</sup> The use of *avagraha* may be marked.

<sup>२</sup> This *ācāṇa* is unnecessary.

<sup>३</sup> Read भूष<sup>०</sup>. Symbol for *sh* is used for that of *s*.

<sup>४</sup> Or °वीरः.

<sup>५</sup> It is better to read मात्वर<sup>०</sup>

- 58 कुलन्देत्वाधिपस्त्रेव यद्यग्रीभिरनारतम् ॥[२८\*]  
 पीलोमोव सुतधियस्य निदिता कङ्कस्योनिरिव [सीति:]<sup>१</sup> ग्रीवसुतेव मन्मथरि-  
 59 पोङ्गोर्मुरारिरिव ।  
 राष्ट्रः सोमकुलान्वयस्य महतः श्रीधर्मसेतोः<sup>२</sup> सुता तस्याभूदवनौभुजोऽग्रमहिनी  
 तारिव ताराङ्गया ॥[३०\*] माया-  
 60 यामिव कामदेवविजयी शुद्धोदनस्यात्मजः  
 स्कन्दो नन्दितदेवहृन्दहृदयः ग्रन्थोद्गमायामिव । तस्यान्तस्य नरेन्द्रहृन्दवि-  
 नमत्पादारवि-  
 61 न्दासनः  
 सर्वोर्ध्वोपतिगर्भहृन्ध्वजः श्रीवा(वा)सपुत्रोऽभवत् ॥[३१\*] नासन्दागुण-  
 हृन्दलुब्ध(स्य)भगसा भक्त्या च श्रीशोदनेर्बु(र्बु)ध्वा ग्रीवसरित्तरंगतरङ्गा  
 62 लक्ष्मीमिमां श्रीभनाम् ।  
 यस्तोमोक्तसौधधामधवलः सङ्गार्थमिचत्रिया नानासङ्गुणभिस्तुसङ्गवसतिस्तस्या-  
 म्विहारः कृतः ॥[३२\*] भक्त्या  
 63 तत्र समस्तयशुवनितावेधव्यदोद्यागुणं  
 क्षत्स्य यासनमाहितादरतया यम्प्राप्यं दूतेरसी । यामान् प्रष्टु विपश्चितोपरि-  
 यथोद्देशा-  
 64 निमानात्मनः  
 पित्रो[र्जो]कहितोदयाद्य च वदो श्रीदेवपालं कृपं ॥[३३\*] यावत्सिन्धोः  
 प्रव(व)न्धः पृथुलहरजटाश्रीभिताङ्गा च गङ्गा शुर्धी  
 65 धत्ते फणीन्द्रः प्रतिदिनमचलो हेतया यावदुर्ध्वी ।  
 यावत्तास्तीदयाद्री रवितुङ्गचूरोष्ट्रचूडामणो स्तस्यावस्यत्कोर्तिरेषा प्रभव-  
 66 तु जगताम्सरिताया रोपयंतो ॥[३४\*]

## TRANSLATION.

Lines 1-25 are translated in the Mungir grant edited by Kielhorn in *Indian Antiquary*, Vol. XXI, pp. 257-258.

Ll. 26-33. In the Śrinagara-bhukti, at the villages falling within the district (*vishaya*) of Rājagriha, namely, Nandivanāka and Maṇivātaka, which come within the territorial subdivision (*naya*) of Ajapura, together with the undivided lands connected therewith; Natikā which comes within the subdivision (*naya*) of Pilipinkā and Hastigrāma which comes within the

<sup>1</sup> Both these letters are doubtful. Saṅkalpayōni, i.e. Kāmadōva has four wives, as stated in the *Vishvadharm-mōttariya*, III, 73, 21, namely, Rati, Priti, Sakti and Madasakti. Either of the two names *Priti* and *Sakti* will fit in, but the former seems preferable.

<sup>2</sup> May be read as वर्धसेती also.

<sup>3</sup> The use of the *avagraha* may be marked.

<sup>4</sup> Ditto.



subdivision (*naya*) of Achalā and the village of Pālāmaka which comes under the subdivision (*viśhi*) of Kumudasūtra (or Kumudasānu), that falls within the limits of the district (*viśhaya*) of Gayā—Dēvapālādēva, being in good health, issues commands to all the persons who have assembled here,—the *Rajārāṇaka*<sup>1</sup>, the *Rājaputraka*, the *Rajāmātya*, the *Mahākārttikakṛitika*, the *Mahādāṇḍanāyaka*, the *Mahāpratihāra*, the *Mahāsāmanta*, the *Mahādauḥsādhāsādhhanika*, the *Mahākumāramātya*, the *Pramātri*, the *Śarabhaṅga*, the *Rājasthāniya*, the *Uparika*, the *Viśhayapati*, the *Dāśaparādhika*, the *Chaurōddharanika*, the *Dāṇḍika*, the *Dāṇḍapātika*, the *Śaulkika*, the *Gaulmika*, the *Kshētrapāla*, the *Kōṭapāla*, the *Khaṇḍaraksha*, the *Tadāyuktuka*, the *Vinīyuktaka*, the *Hastyaśvōshṭṛanaubalavyāpṛitaka*, the *Kiśōra-vaḍavā-gō-mahishydhikṛita*, the *Dātupraishanika*, the *Gamāgamika*, the *Abhitvaramāṇaka*, the *Tarika*, the *Tarapatika*, the *Oḍras* (men from Orissa), the *Mālavas*, the *Khaṭas*, the *Kulikas*, the *Karṇāṭas*, the *Hūnas*, the *Chāṭas* (or village officers), the *Bhaṭas*, the servants and others, dependent on his lotus-feet, who are not named here, and the residents, the Brahmanōttaras, the village-elders, householders, the *purōgas*, the *Mēdas*, the *Andhrakas* down to the *Chāṇḍālas*—

Ll. 33-37. Be it known to you that the above-mentioned villages, namely, the village of Nandivanāka, the village of Maṇivāṭaka, the village of Naṭikā, the village of Hasti (or Hastigrāma) and the village of Pālāmaka, together with the undivided lands attached to them, unbroken up to their boundaries, grass and pasture-lands,<sup>2</sup> with their grounds, places, mango and *madhūku* (*Bassia Latifolia*) trees, with their water and dry lands, *uparikaras*, *dāśaparādhās*, *chaurōddharanās*, free from all troubles, exempt from the entry of the *chāṭas* (village officers), and *bhaṭas*, with all taxes due to the king's family or court, with nothing of these to be recovered, according to the maxim of *bhūmicchhidra*, to last as long as the moon and the sun and the earth shall endure, excluding the gifts to gods, and the Brahmans, which were granted before and were enjoyed or are being enjoyed—

Ll. 37-42 are granted by us for the increase of the spiritual merit and glory of my parents and of myself—We being requested by the illustrious Mahārāja Bālaputrādēva, the King of Suvarṇpadvīpa through a messenger "I have caused to be built a monastery at Nalanda" granted by this edict toward the income for the blessed Lord Buddha, the abode of all the leading virtues like the *pra jñāpāramitā*, for the offerings, oblations, shelter, garments, alms beds, the requisites of the sick like medicines, etc., of the assembly of the venerable *bhikṣhus* of the four quarters (*comprising*) the Bodhisattvas well versed in the *tantras*, and the eight great holy personages (i. e. the *ariya-puggalas*), for writing the *dharma-ratnas* or Buddhist texts and for the upkeep and repair of the monastery (when) damaged; therefore, this grant should be approved and preserved by all of you<sup>4</sup> out of regard for the merit of protecting gifts of land and because in the confiscation of the same there is a fear of falling into the great hell and the like. The residents also should be obedient to the order on hearing it and

<sup>1</sup> Many of these designations hardly admit of translation. They all occur in several grants and have already been noticed by scholars. So they are left untranslated here.

<sup>2</sup> लक्ष्ययुक्तिकम् is usually so translated and युक्ति is practically left untranslated.

<sup>3</sup> Dr. Thomas is of opinion that the term Bōdhisattva is used here to indicate the monks and would read *tatraka* in place of *tāntraka*. He further thinks that *Buddhabhāṭṭārakasya* depends on *sthānasya*. The term *dharmanātri* occurs in the *Siddharmapundarikā*, I, 10, 79; II, 102; XI, 5, 7. Burnouf translates it: "la regle de la loi," i. e. the rule of the Law." For *asṭa ... pudgalasya* see Childers, Pāli Dictionary under *ariyapuggalo* and *puggalo*.

<sup>4</sup> Dr. Krōm of Leiden also thinks that the message sent by Bālaputra to Dēvapāla is only contained in the words: "Śrī-Nālandāyān vihāraḥ Kāritas"; for, if we assume that the message includes the whole passage as far as it (l. 42) it is not clear who are meant by the words *dharmabhiḥ sarvasairēva* (l. 40). These words cannot be applied to King Dēvapāla. Evidently they refer to that king's officials mentioned previously. These remarks appear to be justified but then we would require it after *kāritas*—



should bring to the donees at the proper time the due revenues such as *bhīgabdhōgakara*, gold, etc." *Sāmvat* (year) 39, *Kārttika*, day 21.

Ll. 43-50. In pursuance thereof are the (following) verses (nos. 16-21) announcing duties (regarding grants)<sup>1</sup>.

V. 22. The illustrious *Balavarmman* who was the right hand of the king, as it were, and who never depended on (others') help for crushing hostile forces, acted as messenger in this religious function.

V. 23. In this religious undertaking *Balavarmman*, the illustrious ruler of the *Vyāghrataṭi-maṇḍala*, acted as a messenger of the illustrious (Emperor) *Dēvapāladēva*.

V. 24. There was a King of *Yavabhūmi* (or Java), who was the ornament of the *Śailēndra* dynasty, whose lotus-feet bloomed by the lustre of the jewels in the row of trembling diadems on the heads of all the princes, and whose name was conformable to the illustrious tormentor of brave foes (*vīra-vairi-mathana*).

V. 25. His fame, incarnate, as it were, by setting its foot on the regions of (white) palaces, in white water-lilies, in lotus plants, conches, moon, jasmine and snow and, being incessantly sung in all the quarters, pervaded the whole universe.

V. 26. At the time when that king frowned in anger, the fortunes of the enemies also broke down simultaneously with their hearts. Indeed the crooked ones in the world have got ways of moving which are very ingenious in striking others<sup>2</sup>.

V. 27. He had a son, who possessed prudence, prowess, and good conduct, whose two feet fondled too much with hundreds of diadems of mighty kings (bowing down). He was the foremost warrior in battle-fields and his fame was equal to that earned by *Yudhisthira*, *Parāśara*, *Bhīmasēna*, *Karṇa* and *Arjuna*.

V. 28. The multitude of the dust of the earth, raised by the feet of his army, moving in the field of battle, was first blown up to the sky by the wind, produced by the (moving) ears of the elephants, and, then slowly settled down on the earth (*again*) by the ichor, poured forth from the cheeks of the elephants.

V. 29. By the continuous existence of whose fame the world was altogether without the dark fortnight, just like the family of the lord of the *dāityas* (demons) was without the partisanship of *Kṛishṇa*<sup>3</sup>.

V. 30. As *Paulōmī* was known to be (the wife of) the lord of the *Suras*, (*i.e.* *Indra*) *Ratī*<sup>4</sup> the wife of the mind-born (Cupid), the daughter of the mountain (*Pārvatī*), of the enemy of Cupid (*i.e.* *Śiva*) and *Lakshmi* of the enemy of *Mura* (*i.e.* *Vishṇu*) so *Tārā* was the queen consort of that king, and was the daughter of the great ruler *Dharmasētu*<sup>5</sup> of the lunar race and resembled *Tārā* (the Buddhist goddess of this name) herself.

V. 31. As the son of *Śuddhōdana*, (*i.e.* the Buddha) the conqueror of *Kāmadēva*, was born of *Māyā* and *Skanda*, who delighted the heart of the host of gods, was born of *Umā* by *Śiva*, so was born of her by that king, the illustrious *Bālaputra*, who was expert in crushing the pride

<sup>1</sup> Here come six imprecatory and benedictory stanzas, too well-known to be translated. The stanza *सन्निवृत्ताः सावित्रः पार्थिवेन्द्राः* which is given in the *Mungir* grant is here left out.

<sup>2</sup> The eyebrows become crooked in frowning and the poet by way of *arthāntara-vyāsa* draws a general inference from it.

<sup>3</sup> Pun on the words *Kṛishṇa* and *pakṣa*. Fame is white or bright cf. *सावित्रं योनिं चापि वज्रसि चक्रवर्त्ता यवर्त्ते वासुकीर्त्तये*: *Sāhityadarpaṇa*, VII-23.

<sup>4</sup> The exact word which certainly has only two letters is not distinct. It may be either *Pṛīti* or *Śakti* as noticed above, *f.n.*, p. 324. That *Ratī* is meant is absolutely clear from the context.

<sup>5</sup> This name can be read as *Varmasētu* also.

of all the rulers of the world, and before whose foot-stool (the seat where his lotus-feet rested) the groups of princes bowed.

V. 32. With the mind attracted by the manifold excellences of Nālandā and through devotion to the son of Śuddhōdana (the Buddha) and having realised that riches was fickle like the waves of a mountain stream, he whose fame was like that of Saṅghārthamitra<sup>1</sup>, built there (at Nālandā) a monastery which was the abode of the assembly of monks of various good qualities and was white with the series of stuccoed and lofty dwellings.

V. 33. Having requested, King Dēvapāladēva, who was the preceptor for initiating into widowhood the wives of all the enemies, through envoys, very respectfully and out of devotion and issuing a charter, (he) granted these five villages, whose purpose has been noticed above for the welfare of himself, his parents and the world.

V. 34. As long as there is the continuance of the ocean, or the Ganges has her limbs (the currents of water) agitated by the extensive plaited hair of Hara (Śiva), as long as the immovable king of snakes (Śēsha) lightly bears the heavy and extensive earth every day and as long as the (*Udaya*) Eastern and (*Asta*) Western mountains have their crest jewels scratched by the hoofs of the horses of the Sun so long may this meritorious act, setting up virtues over the world, endure.

#### No. 18.—MATTEPAD PLATES OF DAMODARAVARMAN.

By PROFESSOR E. HULTZSCH, PH.D.; HALLE (SAALE).

This inscription is engraved on five very thin copper-plates, which were found in the village of Matṭepād in the Ongole Taluk of the Guṇṭūr District and forwarded to Rao Bahadur H. Krishna Sastri by the Tahsildar of Nellore. The plates measure  $6\frac{1}{2}$  inches in breadth and  $1\frac{1}{2}$  inches in height. There are eight inscribed faces, the outer faces of the first and last plates having been left blank. Each inscribed face bears only two lines of writing. The margins of the plates are not raised into rims, but the writing is in fair preservation. The five copper-plates are strung on a ring of the same metal, passing through a hole of about  $\frac{3}{4}$ " in diameter on the left side of the writing. The two ends of the ring, which is about  $2\frac{1}{2}$ " in diameter, are fixed in the base of an oval seal, which is much worn; it seems to bear, in relief, the figure of a seated bull, facing the proper right. The weight of the plates, with ring and seal, is  $30\frac{1}{2}$  tolas.

The alphabet is of an early Southern type. The *Jihvāmūṭya* occurs in line 7, and the *Upadhāmāntya* in line 16; final forms of *t* and *m* in lines 1, 7, and 15, 16 (twice), respectively. As in the case of the plates of Chārudēvi (above, Vol. VIII, No. 12) and of Vijaya-Dēvavarman (Vol. IX, No. 7), the eight inscribed faces are numbered consecutively, like the pages of a modern book, with the numerical symbols 2, [3], 4, 5, 6, 7, 8 on the left margin; the first plate seems to bear, just as that of Dēvavarman,<sup>2</sup> the sacred syllable *ōm* in the place of the figure 1. The symbol 2 occurs also in the date (l. 14), and the symbol 1 repeatedly in lines 8-13.

The language of the plates is Sanskrit mixed with Prakṛit. Lines 1-14 are in prose, and the two last lines in verse. In the Sanskrit portion consonants following *r* are doubled, with the exception of *t* in *kartum*= and of *h* in *arhanti* (l. 6). The Sandhi is neglected after °*purāt* (l. 1), °*tasya* and °*sagōṭrasya* (l. 2), -*grāmāyakaḥ* (l. 4), -*grāmaḥ* (l. 5), and *bhūmiḥ* (l. 15).

<sup>1</sup> This might possibly mean that his wealth befriended the cause of the Saṅgha.

<sup>2</sup> See above, Vol. IX, p. 57.

In lines 8-13 the proper names of the donees and most of the names of their *gōtras*<sup>1</sup> are given in Prākṛit, and in line 14 the Prākṛit form *-sambachchharan* occurs. The only other declensional forms are the nominative singular *amso* (for which we would have expected *amso*) and the genitive singular *-ajassa* (= *-āryasya* in Sanskrit) in lines 8-13. The vowel *ae* has become *o* in *Konḍinna* (= *Kaṇḍinya*, ll. 8-11). Sanskrit *p* and *b* have been changed to *v* in *Kassava* (= *Kāśyapa*, l. 11 f.) and *Savarajja* (= *Śabarārya*, l. 10). Consonant groups are assimilated; but *īri* is represented by *siri* in *Sirijja* (l. 9). This name, as well as *Nandijja*<sup>2</sup> (= *Nandyārya*, ll. 8, 13), *Aggijja* (= *Agnīārya*, ll. 9, 11), *Agasti* (= *Agastya*, l. 13), and *Veṇujja* (for which we would have expected *Veṇhujja*<sup>3</sup> = *Vishṇvārya*, l. 12), are instances of *Saṃprasāraṇa* (*i* = *ya*, and *u* = *va*).

The inscription records that, in the 2nd year of his reign (l. 14), the Mahārāja Dāmōdaravarman (l. 3) granted the village of Kaṅgūra to a number of Brāhmaṇas. He was a worshipper of 'the truly and perfectly Enlightened one' (*Samyak-sambuddha*, l. 1), i.e. of the Buddha. At the same time he boasts of having performed certain Brāhmanical rites, viz. *Gō-sahasra* and *Hiranyagarbha* (l. 2 f.). These are the names of the second and fifth of the sixteen so-called 'great gifts' (*mahādāna*) of the Purāṇas.<sup>4</sup> A similar feat is ascribed to king Attivarman in another copper-plate grant from the Guṇṭūr District, where I translate the epithet *apramēya-Hiranyagarbha-prasavēna*<sup>5</sup> by 'who is a producer of (i.e. who has performed) innumerable *Hiranyagarbhas*.' That this Attivarman (whose name seems to be a Prākṛitic or Dravidian form of *Hastivarman*) belonged to the same dynasty as Dāmōdaravarman, is evident from the fact that his family is stated to be 'descended from the lineage of the great sage Ānanda' (ibid., text l. 1), while Dāmōdaravarman claims to have belonged to the *gōtra* of Ānanda (below, text l. 2). Moreover, Dāmōdaravarman resided at a city called Kandarapura (below, text l. 1), which must have received its name from that prince Kandarā who is mentioned as an ancestor of Attivarman.<sup>6</sup> The characters of the copper-plate grant of this king are decidedly more developed than those of the subjoined grant, which, besides, is partially in Prākṛit, while the former is all in Sanskrit. Consequently, Dāmōdaravarman must have been one of the predecessors of Attivarman.

When editing the Gōraṇṭla plates of Attivarman, my late lamented friend Fleet believed this king to have been a Pallava,<sup>7</sup>—chiefly because he interpreted the epithet *apramēya-Hiranyagarbha-prasavēna* by 'who is of the posterity of the inscrutable (god) Hiranyagarbha.' As I have shown above, this rendering is inadmissible in the light of the corresponding epithet used in the fresh plates, and Fleet himself had since withdrawn his original opinion in his *Dynasties of the Kanarese Districts*, second edition, p. 334. Henceforth Kandarā, Dāmōdaravarman, and Attivarman (Hastivarman) may be designated as 'kings of the family of Ānanda.'

The two localities mentioned in the subjoined inscription—Kandarapura (l. 1) and Kaṅgūra (l. 4 f.)—I am unable to identify. But the first of the two villages referred to in the grant of Attivarman—*Tāṇṛikonṇa*<sup>8</sup>—is probably identical with Tāḍikonḍa, 10 miles north of Guṇṭūr<sup>9</sup> and south of the Kṛishṇā river, and the second village—*Āntukkūra*<sup>10</sup>—with Gani-Ātukūru, west

<sup>1</sup> In line 13 the names of the *gōtras* are in Sanskrit.

<sup>2</sup> Cf. *Nandijja* and *Gonandijja*, above, Vol. I, p. 6, text l. 21, and Vol. VI, p. 97, text l. 9.

<sup>3</sup> Cf. *Rudavennhujja*, above, Vol. VI, p. 317, text l. 16.

<sup>4</sup> See Hēmadri's *Lāṇakāṇḍa*, chapter 5, and cf. also *Ep. Ind.*, Vol. I, p. 368, verse 18 and note 58.

<sup>5</sup> *Ind. Ant.*, Vol. IX, p. 102, text l. 3.

<sup>6</sup> Loc. cit., text l. 2. These coincidences were first pointed out in the Madras Epigraphical Report for 1920,

p. 95.

<sup>7</sup> See *Ind. Ant.*, Vol. IX, p. 102.

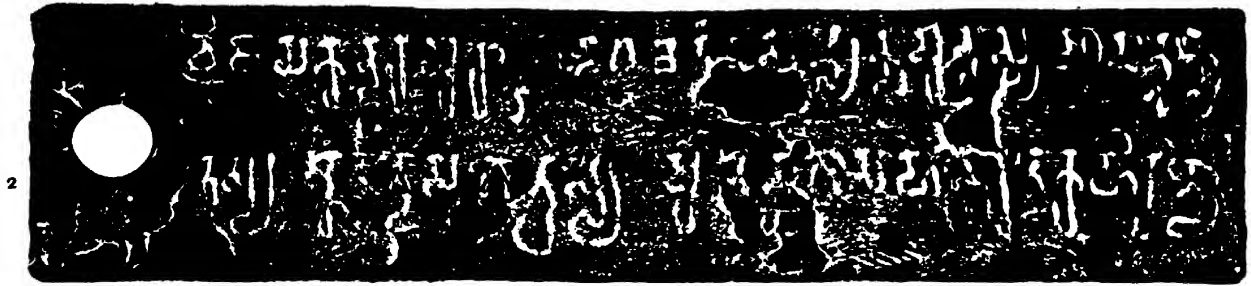
<sup>8</sup> See Mr. R. Sewell's *Lists*, Vol. I, p. 76.

<sup>9</sup> *Ind. Ant.*, Vol. IX, p. 103, text l. 8.

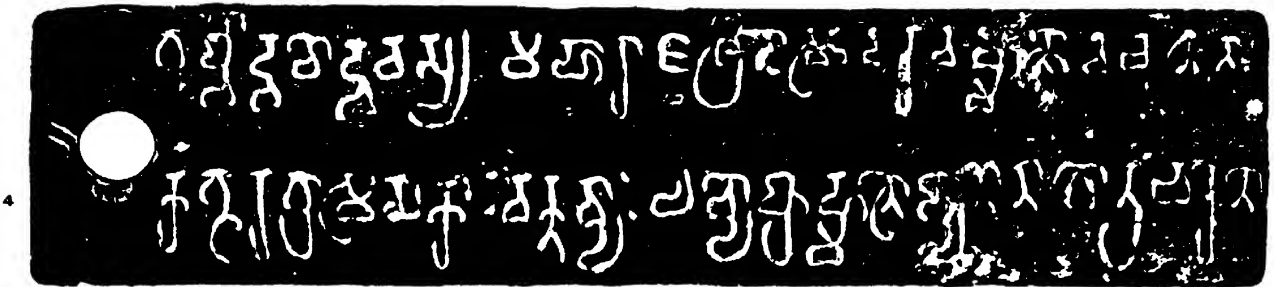
<sup>10</sup> *Ind. Ant.*, Vol. IX, p. 103, text l. 7. Fleet read *Tāṇṛikonṇa*.

Mattepad Plates of Damodaravarman.

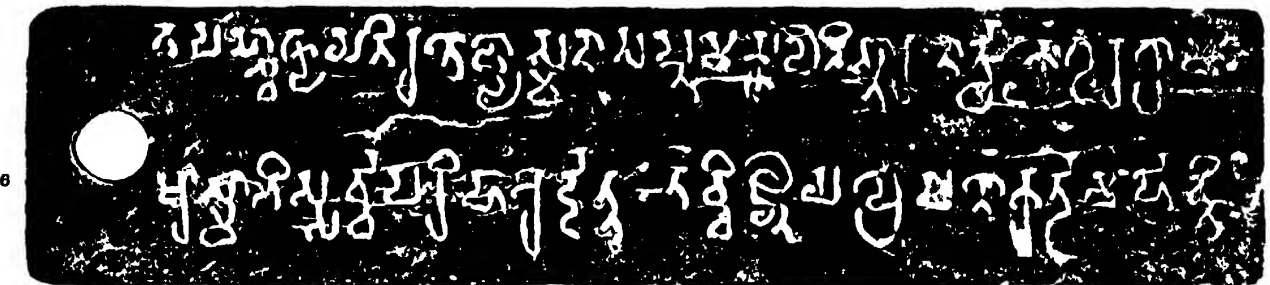
i.



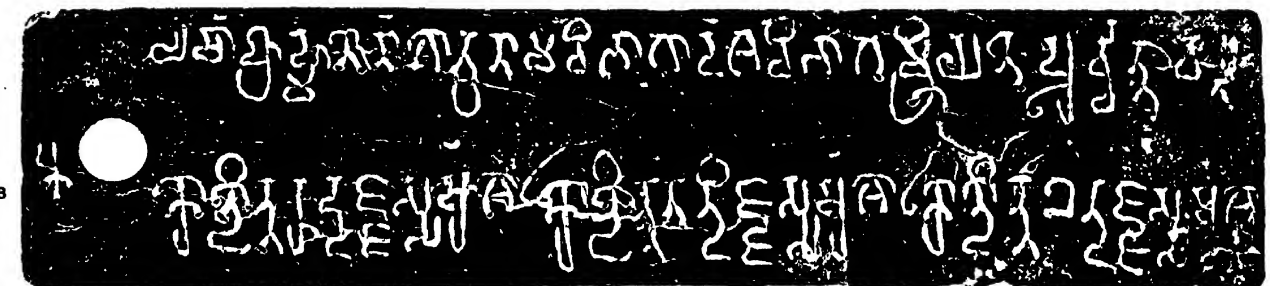
ii a.



ii b.



iii a.



iii b.

10 10  
10 10  
10 10

iv a.

12 12  
12 12  
12 12

iv b

14 14  
14 14  
14 14

v.

16 16  
16 16  
16 16

of Bezvāḍa.<sup>1</sup> Gōraṇṭla, where the plates of Attivarman were obtained,<sup>2</sup> is 4 miles north of Guṇṭūr.<sup>3</sup> Finally, Venkayya's Report for 1900, pp. 5, 35, notes a much defaced Sanskrit inscription mentioning the daughter of king Kandara of the Ānanda gōtra, at Chēzārī, west of Guṇṭūr.

TEXT.<sup>4</sup>*First Plate; Second Side.*

- 1 विजयकन्दरपुरात् [अ]श्वतः सस्यकस्तुभस्य पाहानुभवा-
- 2 तस्य चा[न]न्दसगोत्रस्य अ[वन्ध]गोसह[साने]कहिरण-

*Second Plate; First Side.*

- 3 गम्भीरवोद्वस्य महाराजश्रीदामोदरवर्धनो वचनेन
- 4 कंगूरयामियका(:) वक्तव्याः [1\*] एभ्यो ब्राह्मणे[भ्यो] नानागोत्रचरण-

*Second Plate; Second Side.*

- 5 तपस्त्राध्यायनिरतेभ्योस्मदाससमकुलनिस्तारण[1\*]र्थ कंगूरयामः
- 6 अस्माभिस्सर्वपरिहारैर्हृतः [1] तंविज्जाय<sup>5</sup> मे[व]चं कर्तुमर्हन्ति [1]

*Third Plate; First Side.*

- 7 एषां ब्राह्मणानां गोत्रनामविभागादंशविभागद्वयते [1\*] पूर्वस्तावत्
- 8 कोण्डिवरद्वयस्य अंशो १ कोण्डिवनन्दस्य अंशो १ कोण्डिवन्दस्य  
अंशो

*Third Plate; Second Side.*

- 9 कोण्डिवभवस्य अंशो १ कोण्डिवभगिजस्य अंशो १ कोण्डिवसिरि-  
जस्य अंशो
- 10 पुनः कोण्डिवभवस्य अंशो १ कोण्डिवन्दस्य अंशो १ कोण्डिव-  
सवरस्य अंशो

*Fourth Plate; First Side.*

- 11 कोण्डिवभगिजस्य अंशो १ कोण्डिववीरस्य अंशो १ कसवदामस्य  
[अंशो]
- 12 कसवकुमारस्य अंशो १ कसववेणुस्य अंशो १ कस[वदे]वस्य  
अंशो

<sup>1</sup> See above, Vol. VIII, p. 10.

<sup>2</sup> Ind. Ant., Vol. IX, p. 102.

<sup>3</sup> Mr. Sewell's Lists, Vol. I, p. 74.

<sup>4</sup> From ink-impressions supplied by Rao Bahadur H. Krishna Sastri.

<sup>5</sup> Read तविज्जाय.

## Fourth Plate ; Second Side.

- 13 काश्यपनन्दिकास्य चण्डो १ वत्सदोणकास्य चण्डो चागस्तिभङ्गकास्य  
चण्डो १<sup>१</sup> [1\*]  
14 विजयसंवत्सरं २ कार्तिकशुक्लपक्षस्य चण्डोदस्यां पट्टिका दत्ता [1\*]

## Fifth Plate ; First Side.

- 15 बहुभिर्बुधैः दत्ता बहुभिश्चानुपालिता [1\*] यस्य यस्य यदा भूमिः<sup>२</sup>  
तस्य तस्य तदा फलम् ॥  
16 स्वदत्तां परदत्तां वा यो हरेत्तु वसुधराम् [1] गवां गतसङ्ख्यस्य  
हन्तुः पिबति दुष्कृतम् ॥

## TRANSLATION.

(Line 1.) From Kanderapura, (the city) of victory, the villagers of Kaṅgūra have to be addressed (as follows) by the word of the glorious Mahārāja Dāmōdaravarmān, who meditates on the feet of the blessed Samyak-sambuddha; who belongs to the *gōtra* of Ānanda; (and) who is the origin of the production (i.e. who has caused the performance) of many *Hiraṇyagarbhas*<sup>4</sup> and of (gifts of) thousands of pregnant cows.

(L. 4.) 'For the saka of Our salvation as far as the seventh generation, the village of Kaṅgūra has been given by Us, with all exemptions, to the following Brāhmanas of various *gōtras* and *charaṇas*, and practising austerities and recital of their sacred texts. Knowing this (the villagers) should render service (to them).'

(L. 7.) The allotment of shares is (now) made to these Brāhmanas, with specification of (their) *gōtras* and names. First then, to the Koṇḍinna Rudḍajja (Rudrārya) 1 share; to the Koṇḍinna Nandijja (Nandārya) 1 share; to the Koṇḍinna Khandajja (Skandārya) (1) share; to the Koṇḍinna Bhavajja (Bhavārya) 1 share; to the Koṇḍinna Aggijja (Agnārya) 1 share; to the Koṇḍinna Sirijja (Śryārya) (1) share; again to the Koṇḍinna Bhavajja 1 share; to the Koṇḍinna Khandajja 1 share; to the Koṇḍinna Savarajja (Śabarārya) (1) share; to the Koṇḍinna Aggijja 1 share; to the Koṇḍinna Virajja (Virārya) 1 share; to the Kassava Dāmajja (Dāmārya) (1) share; to the Kassava Kumārjja (Kumārārya) 1 share; to the Kassava Venujja (Vishuvārya) 1 share; to the Kassava Devajja (Dēvārya) (1) share; to the Kaśyapa Nandijja 1 share; to the Vatsa Dopajja (Drōpārya) 1 share; to the Āgasti Bhaddajja (Bhadrārya) 1 share.

(L. 14.) (In) the year of victory 2, on the thirteenth (tithi) of the bright fortnight of Kārttika, (this) set of plates<sup>5</sup> has been given (to the donees).

[Line 15 f. contain two of the customary ślokas.]

## No. 19.—URLAM PLATES OF HASTIVARMAN; THE YEAR 80.

By PROFESSOR E. HULTZSCH, PH.D.; HALLE (SAALE).

This is a set of three copper-plates, measuring 7½ inches in breadth and 2½ inches in height. The outer face of the first plate has been left blank, while the second and third plates

<sup>1</sup> चण्डो १ is entered below the line.

<sup>2</sup> Read भूमिः.

<sup>3</sup> Read भूमिः.

<sup>4</sup> See the introductory remarks.

<sup>5</sup> *paṭṭikā* is used in the same sense in other copper-plate grants. See above, Vol. I, p. 7, text l. 51; Vol. VI, p. 14 text l. 18; p. 88, text l. 28; p. 318, text l. 40; Vol. VIII, p. 340, text l. 40.



bear writing on both sides. The margins of the plates are not raised into rims, but the writing is in good preservation. The plates are strung on a copper ring, which is passed through a hole about  $\frac{1}{2}$ " in diameter near the left margin of the writing. The ring is about 3" in diameter and now carries no seal; but there are clear traces of a seal having once been soldered on it. The weight of the plates, with the ring, is 42 tolas.

The plates were received by Rao Bahadur H. Krishna Sastri from Mr. K. Nagesvara Rao, Editor of the 'Andhra Patrika,' who stated that they are the private property of the Raja of Urlām, Chicacole taluk, Ganjam District. Mr. T. Rajagopala Rao has already published the text of the inscription on them in his journal 'South-Indian Research' for July 1919.

\* The alphabet is of an early Southern type and closely resembles that of the Achyutapuram plates of the Gāṅga Mahārāja Indravarman I of Kalinga,<sup>1</sup> which were drafted by the same officer as the Urlām plates. A final form of *m* occurs at the end of the inscription, while it is replaced by *Anusvāra* in *phalaṁ* (l. 20) and *°pālanam* (l. 21). The two numerical symbols 8 and 80 are used in the date (l. 23), where 80 is expressed by the numerical symbol 80 and a superfluous cipher added to it.

The language is Sanskrit, prose and five verses (ll. 19-22, 23-26). As to orthography—*v* is used for *b* in *°vādhā* (l. 14). The syllable *ri* is replaced by the vowel *ri* in the second syllable of *kṛitrimā* (l. 17). *Anusvāra* is represented by guttural *ṁ* in *Rājasinḥasya* (l. 24) and *-saṅghatēḥ* (for *-saṁghatēḥ*, l. 25). Consonants are doubled after *r*, with the exception of *śh* (in *varsha-*, l. 2); and *dh* is doubled before *y* in *-ānuddhyātāḥ* (l. 7). The *sandhi* is neglected after *-yāśāḥ* (l. 5), *-smābhīḥ* (l. 9), *°vriddhayā* (l. 11), *-simāntikā* and *valmikaḥ* (l. 16), and wrongly made in *-vāpyā* (l. 15) and *tatō* (l. 18).

The inscription records the grant of a piece of land at the village of Hoṇḍevaka in Kṛśṇa-uka-vartanī (l. 8) as an *agrahāra* to Jayaśarman, a resident of Uṛāmalla (l. 12). This land had been purchased from the residents of the *agrahāra* (of Hoṇḍevaka) by the grantor—the Mahārāja Hastivarman (l. 8) of Kalinga (l. 4), who belonged to the Gāṅga family (l. 5 f.) and resided at Kalīṅganagara (l. 1). This king receives exactly the same panegyric epithets as are applied to Indravarman I at the beginning of his two published grants.<sup>2</sup> The date of Hastivarman's grant was the year 80 (in words and figures) of the reign (l. 23), while Indravarman's grants are dated in the years 87 and 91 of the reign. For this reason, and because all the three grants were drafted by the same officer, Hastivarman must have been the predecessor of Indravarman I, and the 'years of the reign' cannot possibly have been those of two individual reigns, but must be referred to the Gāṅga or Gāṅgōya era, whose earliest known date is now that of Hastivarman's record. The day of the grant was 'the eighth (tithi) of the dark (fortnight) of Kārttika' (all in words, l. 13) or 'the day 8 of Kārttika' (l. 23).

The officer who wrote the grant of Hastivarman and the two grants of Indravarman I, was Vinayachandra, son of Bhānuchandra. In the verse which contains his name,<sup>3</sup> he calls his sovereign Rājasinḥa, which, accordingly, must have been a *biruda* both of Hastivarman and of his successor Indravarman I. According to verse 5, Hastivarman had the additional surname Rāpabhīta. The same curious expression, which at first sight does not look very complimentary, but may have to be understood in a moral sense, occurs in two copper-plate grants as the name of a member of the dynasty of Śailōdbhava; see verse 6 of the Buguḍa plates, above, Vol. III, p. 43, and of the Pārikud plates, Vol. XI, p. 284.

The subjoined grant does not mention the name of its engraver; but I use this opportunity for again drawing attention to an error which dies hard, and crops up once more in the transla-

<sup>1</sup> Above, Vol. III, p. 127 ff.

<sup>2</sup> See the preceding note, and the Parīā-Kimeḍi plates, *Ind. Ant.*, Vol. XVI, p. 134.

<sup>3</sup> Verse 4 of the subjoined grant is identical with line 23 f. of the Achyutapuram plates, and with line 19 f. of the Parīā-Kimeḍi plates, of Indravarman I.



tion of a Gāṅga grant in Vol. XIII, p. 216. As I have shown in Vol. VII, p. 107, note 4, *akhaśali*, the person to whom the engraving of copper-plate grants is entrusted, means 'a goldsmith,'<sup>1</sup> and must not be confounded with *akshapaṭālīka*, 'a keeper of records.'

Of the localities mentioned in this inscription, *Kaliṅganagara* (l. 1) is the present *Mukhalingam*,<sup>2</sup> and *Urāmalla*, where the donee resided (l. 12), is *Urlām*<sup>3</sup> where the copper-plates were obtained. In the absence of local maps, I am unable to identify the village granted, *Hoṇḍevaka* (l. 8), and another village, *Hattaravanna*, which seems to be referred to in the description of the boundaries of the former (l. 16). The district of *Krōṣṭuka-vartanī* (l. 8) occurs also in the *Chicacole* plates of *Dēvēndravarmān*.<sup>4</sup>

#### TEXT.<sup>5</sup>

*First Plate ; Second Side.*

- 1 श्री<sup>6</sup> स्वस्ति [1\*] सर्व्वसुखरमणीयाद्विजयकलिङ्गनगरात्कलभुवननिर्माणेक-
- 2 सूत्रधारस्य भगवतो गोकर्णस्वामिनश्चरणकमलयुगलप्रणामादपगत-
- 3 कलिकलहो विनयनयसम्पदामाधारः स्वासिधारापरिस्पन्दाधिग-
- 4 तसकलकलिङ्गाधिराज्यसुतुदधितरङ्गमेखलावनितलप्रवि-
- 5 ततामलयशा(ः) चनेकसमरसंघोभजनितजयशब्दो<sup>7</sup> गाङ्गा-
- 6 मलकुलप्रतिष्ठः प्रतापातिशयानामितसमस्तसामन्तचूडा-

*Second Plate ; First Side.*

- 7 मणिप्रभामञ्जरोपुष्करञ्चितचरणो मातापितृपादानुज्ज्ञातः परम-
- 8 माहेस्वरः श्रीमहाराजो इस्तिवर्मा (1)<sup>8</sup> क्रोष्टुकवर्त्तन्या होण्डेवकग्रामे स-
- 9 र्व्वसमवेतान्कुटुम्बिनस्समाप्तापयति [1\*] विदितमस्तु वो यथाज्ञाभि[ः]<sup>9</sup>
- 10 अस्मिन्ग्रामेप्रहारिकसकाशात्कीत्वा द्दहर्दहसस्य भूम्हेदीकत्याचन्द्रार्क-
- 11 प्रतिष्ठमग्रहारकृत्वा सर्व्वकरैः परिहृत्य मातापित्रोरात्मनश्च पुण्यामिदृश्ये<sup>10</sup>
- 12 उरामल्लनिवासिने वत्ससगोत्राय वाजसनेयसन्नञ्चचारिणे ज[य]-

*Second Plate ; Second Side.*

- 13 शर्मणे कार्त्तिककृष्णाष्टम्यामुदकपूर्व्वं संप्रप्ता [1\*] तद्विदित्वा स्वभूमिमनुपाल-
- 14 यतां न केनचित्परिवाधा<sup>11</sup> कार्य्येति । सीमासिद्धानि चाच [1\*]  
पूर्व्वेण वत्सोक्तस्ततः

<sup>1</sup> Cf. '*agasāli*, *agasālavāḍu* or *agasālevāḍu*, a goldsmith,' in Brown's *Telugu-English Dictionary*.

<sup>2</sup> See above, Vol. IV, p. 187 ff.

<sup>3</sup> This identification was suggested in the *Madras Epigraphical Report* for 1920, p. 96.

<sup>4</sup> Above, Vol. III, p. 131.

<sup>5</sup> From ink-impressions supplied by Rao Bahadur H. Krishna Sastri.

<sup>6</sup> Expressed by a symbol.

<sup>7</sup> Read गोकर्णं.

<sup>8</sup> Read 'संघोभ'.

<sup>9</sup> Read 'दृश्य'.

<sup>10</sup> Read यथाज्ञाधिरिक्ता

<sup>11</sup> Read 'वाधा'.

i.

[illegible] $\ddot{u} a.$ 

8  
 10  
 12

8  
 10  
 12

ii b.

14      14  
 16      16  
 18      18

20 20  
 22 22  
 24 24

26

26

- 15 चेचपाली ततो घोषणवाप्या[:\*] पश्चिमपाली ततः पुनरपि चेच-  
पाली [1\*]  
16 दक्षिणेन उत्तरवक्त्रसीमान्तिका एव<sup>1</sup> [1\*] पश्चिमेन चेचपाली ततो  
वल्लीकः<sup>2</sup>  
17 ततः क्षतृमा<sup>3</sup> पाषाणपङ्क्तिः [1\*] उत्तरेणापि चेचपाली ततो वल्लीकः  
पुनर्वल्लीकः<sup>3</sup>  
18 ततो<sup>4</sup> पूर्ववल्लीकमनुप्राप्तेति । भविष्यद्राजभिषायन्दानधर्मीनुपालनीयः [1\*]

*Third Plate ; First Side.*

- 19 तथा च व्यासगीताः [1\*] बहुभिर्व्यसुधा दत्ता बहुभिषानुपालिता [1\*]  
यस्य यस्य  
20 यदा भूमिस्तस्य तस्य तदा फलं [॥ १\*] स्वदत्ताम्यरदत्ता वा यद्वाद्रव्य  
युधिष्ठिर [1\*] मही<sup>5</sup>  
21 महिमतां श्रेष्ठ दानाश्चेत्यनुपालनं [॥ २\*] षष्टिं वर्षसहस्राणि मोदते दिवि  
22 भूमिदः [1\*] चाक्षेप्ता चानुमन्ता च तान्येव नरको वसेदिति । [१\*]  
प्रवर्धमानविजय-  
23 राज्यसंवत्सरा अशीतिः ८० कार्तिकदिन ८ ॥ इदं विनयचन्द्रेण भानु-  
24 चन्द्रस्य सूनुना [1\*] शासनं राजसिङ्गस्य<sup>6</sup> लिखितं स्वमुखाग्रया ॥ [४\*]

*Third Plate ; Second Side.*

- 25 मण्डलाग्रायनिषेधनिषिष्टारातिसङ्कतेः<sup>7</sup> [1\*]  
26 ओमतीप्रतिघातस्य रणभीतस्य शासनम् ॥

## TRANSLATION.

(Line 1.) Ōm. Hail! From Kalinganagara, (the city) of victory, which is pleasant (on account of the simultaneous presence) of the comforts of all seasons, the glorious Mahārāja Hastivarman, a fervent worshipper of Mahēśvara, who meditates on the feet of (his) mother and father, . . . . .<sup>8</sup> commands (as follows) the ryots, accompanied by all (others), at the village of Hoṇḍevaka in (the district of) Krōṣṭuka-vartanī.

(L. 9.) 'Be it known to you that We have purchased two and a half ploughs (*hala*) of land in this village from the *Agrahārikas*,<sup>9</sup> have constituted (this land a separate) section.

<sup>1</sup> Read सीमान्तिकेव.<sup>2</sup> Read क्षतृमा.<sup>3</sup> Read मही.<sup>4</sup> Read ० संकतेः.<sup>5</sup> The epithets omitted here will be found translated above, Vol. III, p. 120.<sup>6</sup> i.e. the residents of the *agrahāra*.<sup>7</sup> Read वल्लीकस्तः.<sup>8</sup> Read कस्तः.<sup>9</sup> Read सिङ्गस्य.

have made (it) an *agrahāra* which is to last as long as the moon and the sun, have exempted (it) from all taxes, and that, for the sake of the increase of the religious merit of (Our) mother and father and of Ourselves, on the eighth (tithi) of the dark (fortnight) of Kārttika, with libations of water, We have given it to Jayasārman, who resides at Urāmalla, belongs to the Vatsa *gōtra*, (and) studies the Vājasanēya (*śākhā*). Knowing this, nobody should cause obstruction to (the new owners) while they are preserving their own land.<sup>1</sup>

(L. 14.) And the marks of the boundaries of this (land are): In the east, an anthill; then the bank (*pālī*) of a field; then the western bank of the *Ghōṣhaṇa* tank; and then again the bank of a field. In the south, only the boundary of Hattaravanna. In the west, the bank of a field; then an anthill; then an artificial row of stones. And in the north, the bank of a field; then an anthill; again an anthill; then (the boundary) reaches the anthill in the east.

(L. 18.) And future kings should preserve this meritorious gift. There are also the following (verses) sung by Vyāsa.

[Lines 19-22 contain three of the customary Ślokas.]

(L. 22.) Eighty—(in figures) 80—years of the reign of increasing victory, the day 8 of Kārttika.

(Verse 4.) At the command of his (the king's) own mouth, this edict of Rājasiṃha has been written by Vinayachandra, son of Bhānuchandra.

(V. 5.) (This is) an edict of the glorious Rājabhīṣa, whose orders are irresistible, (and) who has crushed the collection of (his) enemies by the strokes of the point of (his) scimitar.

## No. 20.—IPUR PLATES OF GOVINDAVARMAN'S SON MADHAVAVARMAN.

By PROFESSOR E. HULTZSCH, PH.D., HALLE (SAALE).

This is a set of three thin copper-plates in the possession of Brindavanam Gopalachari at the village of Ipūr in the Tenāli Tāluk of the Guṇṭūr District, which was brought to the notice of Rao Bahadur H. Krishna Sastri by Mr. A. Rangasvami Sarasvati. The plates measure  $6\frac{1}{2}$  inches in breadth and  $1\frac{1}{2}$  inches in height. The outer faces of the first and last plates have been left blank, while the middle one bears writing on both sides. The margins of the plates are not raised into rims, but the writing is in good preservation. The plates are strung on a copper ring, which is 3" in diameter and is passed through a hole on the left side of the writing. The two ends of the ring are secured in the base of a circular seal, which measures  $1\frac{1}{2}$ " in diameter and is somewhat worn. It is divided by a cross-line into two sections. The lower section bears, in relief, the legend श्रीमद्वर्मा in two lines. Above the line seems to be a figure of Lakshmi or a Svastika on a pedestal, flanked by two lamp-stands and surmounted by the sun (?) and the crescent of the moon. The weight of the plates, with ring and seal, is 80 tolas.

The alphabet is of an earlier southern type than that of the two other published grants of the Vishpukunḍin family<sup>2</sup>. The secondary forms of *i* and *ṣ* are not always clearly distin-

<sup>1</sup> Cf. the corresponding portion of the Achyutapuram plates, above, Vol. III, p. 129.

<sup>2</sup> These are the Rāmatirtham plates of Indravarman, above, Vol. XII, p. 138, and the Chikilla plate Vikramādityavarman II, Vol. IV, p. 138.

Ipur Plates of Govindavarman's Son Madhavavarman.

i.

2  
4  
2  
4

ii a.

6  
8  
6  
8

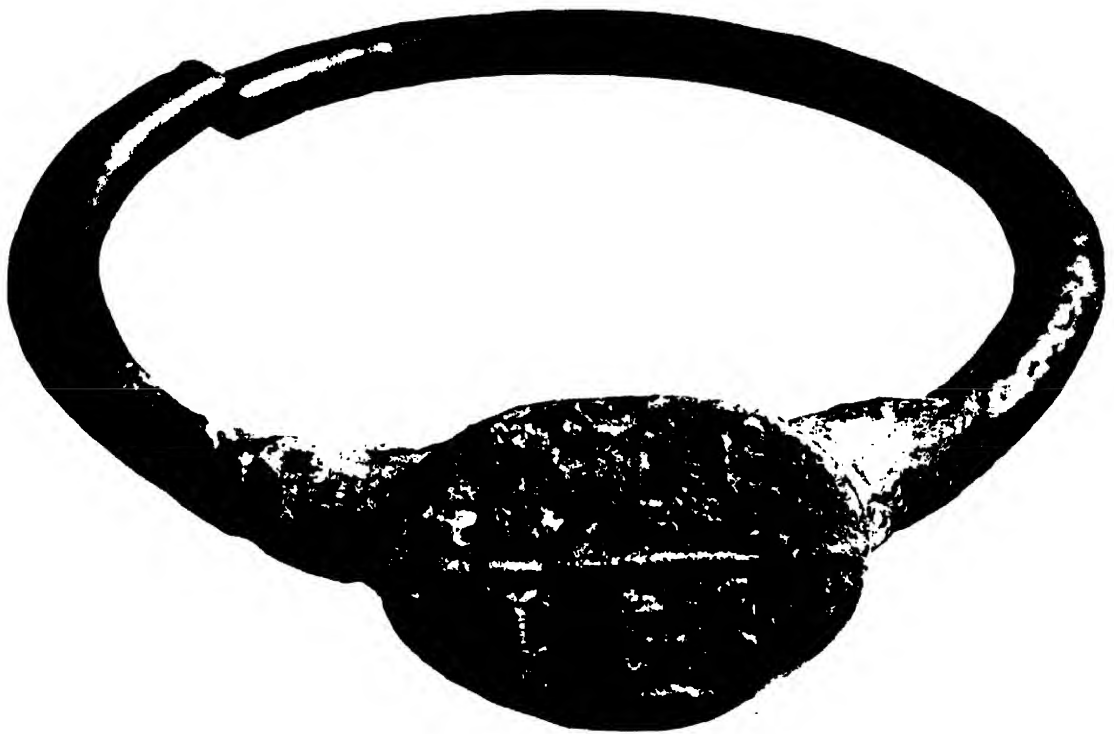
ii b.

10  
10

iii.

12  
14  
12  
14

*Seal*



**FULL SIZE**

guished; in *kuṇḍināṃ* = (l. 1) *i* looks like *ś*, and in *bhagavach-Chhriparuvata* (l. 1), *śrī-Gōvinda*<sup>o</sup> (l. 3), and *-maht* (l. 4), *ś* looks like *i*; *i* is distinguished from *n* by a loop on the left: but in *-janīn* = (l. 9) the second *n* has a loop, and in *-jagat-kalmashaḥ* (l. 7) and *-samvatsarē* (l. 14) the *i* has no loop. Final forms of *m* and *t* occur in *-arttham* (l. 10), *rasundharām* and *vrajēt* (l. 13). The numerical symbols 5, 7, and 10 are used in the date (l. 14).

The language is Sanskrit prose (with two verses quoted in l. 12 f.), but the abbreviation *gi* (l. 14) presupposes the Prākṛit word *gīṃha* (= *grīṣma* in Sanskṛit). The incorrect form *saptātrīśē*, (for *saptatrinśē*, l. 14) seems also to be due to Prākṛit influence. Palatal *ñ* is expressed by lingual *n* in *Mañchyanna* (l. 11). Consonants are doubled after *r* throughout, and *dh* before *y* in *-ānuddhyātasya* (l. 1), while *tva* represents *ttva* in *-satva* (ll. 3, 6). As the notes on the text will show, the rules of *sandhi* are frequently disregarded.

The inscription records the grant of the village of Vilembali in the Guddādi-vishaya (l. 8 f.) to the Brāhmaṇa Agnīśarma. The grantor was the Mahārāja Mādhavavarman (l. 8), son of the Mahārāja Gōvindavarman (l. 8), who was a worshipper of the temple at Śrīparvatī and belonged to the family of the Viṣṇukunḍins (l. 1). Mādhavavarman issued his order to the villagers from his camp at Kuḍāvāḍa (l. 8) and seems to have resided at Trivaranagara (l. 4). The executor (*ajñā*) of the grant was (the king's) 'dear son,' Mañchyanna-bhaṭṭāraka (l. 11). Its date was the 15th day of the 7th fortnight of the hot season in the thirty-seventh year of the reign (l. 14).

In consideration of the comparatively early type of the alphabet of this inscription, I feel tempted to identify Mādhavavarman with a king of the same name, who is known to have been the grandfather of the grantor of the Rāmatīrtham plates, and the great-grandfather of the grantor of the Chikkulla plates.<sup>1</sup> For easy reference, I subjoin a tabular statement.

<i>Ipūr plates.</i>	<i>Rāmatīrtham plates.</i>	<i>Chikkulla plates.</i>
Gōvindavarman.		
Mādhavavarman (year 37).	Mādhavavarman.	Mādhavavarman.
	Vikramēndra.	Vikramēndravarmān I.
	Indravarman (year 27).	Indrabhaṭṭārakavarman.
		Vikramēndravarmān II (year 10).

Of the localities mentioned in this inscription, Śrīparvatā (l. 1) is perhaps identical with Śrīśailam in the Karpāl District.<sup>2</sup> Whether the Guddādi-vishaya (l. 8 f.) has anything to do with the Guddavādi-vishaya to which Drākshārāma and Chellūr in the Gōḍāvarī District belonged,<sup>3</sup> I am unable to say, nor can I identify Vilembali (l. 9), Kuḍāvāḍa (l. 8), and Trivaranagara (l. 4), which can hardly be identical with the distant Tripurī (Tewar).

<sup>1</sup> See my remarks above, Vol. XII, p. 138, and cf. the Madras Epigraphical Report for 1920, p. 99.

<sup>2</sup> See above, Vol. IV, p. 195.

<sup>3</sup> See above, Vol. IV, p. 83; *Ind. Ant.*, Vol. XIV, p. 52, text l. 77; Vol. XIX, p. 424.



TEXT.<sup>1</sup>*First Plate ; Second Side.*

- 1 खस्ति [१\*] भगवच्छोपर्व्यतस्त्रामिपादानुज्यातस्य विष्णुकुण्डिनामपरिमितबल-  
पराक्रमस्य  
2 परमधार्मिकस्य प्रणतसकलसामन्तस्यानेकगोहिरण्यभूमिप्रदानस्य महाराजस्य  
3 श्रीगोविन्दवर्माणः पुत्रः स्मृतिमतिबलसत्त्वधैर्य्यैर्वीर्य्यविनयसंपन्नः<sup>2</sup>  
4 सकलमहोमण्ड[ल]म[नु]जपति[प्र]तिपूजितशासनः<sup>3</sup> त्रिवरनगरभवनगतयुव-

*Second Plate ; First Side.*

- 5 तिहृदयनन्दनः 'ख[न]यबलं विजितसकलसामन्तातुलबलविनयनयनिय-  
6 मसत्त्वसंपन्नः<sup>4</sup> सकलजगदवनिपतिप्रतिपूजितशासनः<sup>5</sup> अग्निष्टोमसहस्रया-  
7 जो हि[र\*]ण्यगर्भप्रसूतः<sup>6</sup> एकादशाश्वमेधावभृत्यविधूतजगत्कल्मषः सुस्तिर-<sup>7</sup>  
8 कर्म[र] महाराजश्रीमाधववर्मा विजयस्कन्धावारा[त्\*] कुडावाडवासक-<sup>8</sup>  
गुहादिविष-

*Second Plate ; Second Side.*

- 9 ये विलिखलिग्रामजनान्सर्व्वानेवम[१\*]ज्ञापयति यथा<sup>10</sup> अस्मै वत्सगोत्राय  
ब्राह्मणी-  
10 य<sup>11</sup> अग्निशर्मणे अस्मदंशविभूत्यर्थम्<sup>12</sup> सर्व्वपरिहारण दत्तवानस्मि [१\*]  
तदवगम्य सर्व्व-  
11 राजपुरुषैः परिहर्त्तव्यः पालयितव्यश्च [१\*] अस्याज्ञा प्रियपुत्रः<sup>13</sup> मण्यच्छण-  
भट्टारकः [१\*]

*Third Plate ; First Side.*

- 12 बहुभिर्व्वसुधा दत्ता बहुभिश्चानुपालिता [१\*] यस्य यस्य यदा भूमिस्तस्य तस्य  
तदा फ-

<sup>1</sup> From ink-impressions supplied by Rao Bahadur H. Krishna Sastri.<sup>2</sup> Read 'सत्त्व'.<sup>3</sup> Perhaps स्वभुजबल° is intended. Read 'सामन्ती ऽनुज'.<sup>4</sup> Read 'सत्त्वसंपन्नः'.<sup>5</sup> Read 'प्रसूतिरिकादशा'.<sup>6</sup> Read 'वासकाङ्गहारि'.<sup>7</sup> Read 'ब्राह्मणायापिशर्मणेऽस्म'.<sup>8</sup> Read 'पुत्री मन्त्रायण'.<sup>9</sup> Read 'शासनविचर'.<sup>10</sup> Read 'शासनोऽग्नि'.<sup>11</sup> Read 'सुस्तिर'.<sup>12</sup> Read 'यथाचे'.<sup>13</sup> Read 'त्यर्थ'.

13 ल[म् ॥\*] खदत्ता परदत्ता वा यो हरित वसुधराम् [॥\*] चाक्षेपा  
चातुमन्ता च सर्वथा नरक<sup>१</sup> व्रजेत् [॥\*]

14 प्रवर्षमानविजयराज्यसंवत्सरे सप्तत्रिंशे<sup>२</sup> गि प ७ दि १० ५ ॥

TRANSLATION.

(Line 1.) Hail! The son of the glorious Mahārāja Gōvinda<sup>३</sup>varman, who meditated on the feet of the holy lord of Śrīparvata; (who belonged to the family) of the Vishṇukundins; whose power and valour were immeasurable; who was most religious; to whom all vassals were bowing; (and) who (performed) many gifts of cows, gold, and land;

(L. 3.) the glorious Mahārāja Mādhavavarman, who is endowed with (knowledge of) the law, intelligence, power, honesty, firmness, valour, and modesty; whose edicts are worshipped by all rulers of men on the circle of the earth; who delights the hearts of the young women standing on (the top of) the palaces of Trivaranagara; who has subdued all vassals by the power of his own arm; who is endowed with unequalled power, modesty, policy, self-restraint, and honesty; whose edicts are worshipped by the rulers of the earth in the whole world<sup>४</sup>; who has performed thousands of *Agñishōma* sacrifices; who is a producer of (i.e. who has performed *Hiranyagarbhas* <sup>५</sup>; who has removed the stains of the world by bathing at the end of eleven *Āvameḍhas* <sup>६</sup>; (and) whose religious rites are everlasting;

(L. 8.) from (his) camp of victory, pitched at Kuḍāvāḍa, commands as follows all men at the village of Vilembali in the district (*vishaya*) of Guddādi.

(L. 9.) 'For the sake of the prosperity of Our family, I have given (this village), with all exemptions, to this<sup>७</sup> Brāhmaṇa Agniśarman of the Vatsa *gōtra*.. Knowing this, all royal officers should exempt and preserve it.'

(L. 11.) The executor (*ājñā*) of this (grant was the king's) dear son, Mañchyanna-bhaṭṭāraka.

[Line 12 f. contain two of the customary Ślokas.]

(L. 14.) In the thirty-seventh year of the reign of increasing victory, the 15th day of the 7th fortnight of the hot season.<sup>७</sup>

No. 21.—IPUR PLATES OF MADHAVAVARMAN II.

By PROFESSOR E. HULTZSCH, Ph.D.; HALLE (SAALE).

This is another set of three thin copper-plates without rims, which belongs to the same owner as the preceding one (above, No. 20). The plates measure 7 inches in breadth and 1½ inch in height and have four inscribed faces, the outer sides of the first and last plates having been left blank. The writing is much injured, especially on the two last faces. The plates are strung on a ring, which is about 3" in diameter, and the ends of which are secured in the base of

<sup>१</sup> Read नरकं.

<sup>२</sup> Read सप्तत्रिंशे.

<sup>३</sup> The two last epithets are nearly identical with two others applied to the king before in line 3 f.

<sup>४</sup> *Hiranyagarbha* is the name of the fifth of the sixteen *Mahādānas*. Cf. *anēka-Hiranyagarbbh-ādibha-ōdbbhavasya* in the Maṭṭepād plates of Dāmōdaravarman (above, No. 18), text l. 2 f., and *apramēya-Hiranyagarbha-prasavēna* in the Gōraṇṭha plates of Attivarman *Ind. Ant.*, Vol. IX, p. 102, text l. 3.

<sup>५</sup> The same epithet occurs (with the various reading *avadhanta* for *vidhānta*) in the Rāmātirtham plates, l. 3 f., and in the Chikkalla plates, l. 2 f.

<sup>६</sup> Cf. above, Vol. IX, p. 59, note 6.

<sup>७</sup> With *gi pa* 7 cf. *gimhā pakho chhaṭṭho 6* in the Mayidavōlu plates (above, Vol. VI, p. 88); [*g*] *imha-pakho pakame 5* at Kārī (Vol. VII, p. 61); the following dates of four Nāśik inscriptions (above, Vol. VIII): *gimhā pakho pakame 5* (p. 59); *gimhāna pakho biṭiye 2* (p. 60); *gi pa 2* (p. 65); . . . *mha-pakho choṭho 4* (p. 88) and *gimha-pūkkam paḍamah* in a Maḷavalli inscription (Vol. X, Appendix, p. 133, No. 1195).

a circular, much worn seal, which is turned towards one side. The seal is divided by a cross-line into two sections. In the lower section the legend श्रीनारायण[वर्मा], in two lines, is very faintly visible, while the symbols in the upper section cannot be made out. The weight of the plates, with ring and seal, is 30 tolas.

The alphabet reminds us of that of the British Museum plates of Chārudēvi (above, Vol. VIII, p. 143). The *Upadhmanīya* occurs in lines 12 and 16. The numerical symbols 7 (thrice) and [40] are used in the date (l. 13).

The language is Sanskrit prose (with two verses quoted in ll. 14-16); but the abbreviation *vā* (l. 13) presupposes the Prākṛit form *vāsa* (= *varsha* in Sanskrit). Consonants are doubled after *r* throughout, *t* before *r* in *kshattriya*<sup>o</sup> (l. 3 f.) and *-puttras-* (l. 5), and *dh* before *y* in *°ddhyātō* (l. 7),<sup>1</sup> while *tva* is employed for *ttva* in *-satva-* (l. 6).

The inscription records the grant of a village, the name of which is doubtful, by Mādhavarman (II) (l. 7), who resided at [Ama]rapura (l. 1), ruled over the Trikūṭa and Malaya mountains (l. 5), was a worshipper of the temple at Śrīparvata (l. 6 f.), and belonged to the family of the Vishnukunḍins (ll. 7, 13). His father was Dēvavarman (l. 5), and his grandfather the Mahārāja Mādhavarman (I) (l. 3 f.). As the alphabet of this inscription seems to be of an earlier type than that of the preceding one, and as grandsons are frequently named after their grandfather, I consider it not impossible that Mādhavarman II was the grandfather of Gōvindavarman's son Mādhavarman,<sup>2</sup> who would then have to be designated Mādhavarman III. The first figure of the year in the date portion of the subjoined inscription (l. 13) is injured and uncertain.

The localities mentioned in this inscription I am unable to identify, with the exception of Trikūṭa, a mountain on the Bombay side,<sup>3</sup> and Malaya, i.e. the Western Ghāṭs, both of which were at a safe distance from the dominions of Mādhavarman II, although he professes to have ruled over them. For Śrīparvata=Śrīśailam see above, Vol. IV, p. 195.

#### TEXT.<sup>4</sup>

*First Plate ; Second Side.*

- 1 स्वस्ति [१<sup>०</sup>] [चम]रपुरादेकादशान्वमेधावभूयावधूतजगत्कस्य[व].
- 2 स्यान्निष्टोमसहस्रयाजिनोनेकसामन्तमकुटकूटम-
- 3 णिखचितचरणयुगलकमलस्य<sup>५</sup> महाराजस्य श्रीमा-
- 4 धववर्मणः प्रियनसा क्षत्रियावस्कन्दप्र[वर्त्ति]ताप्रतिमवि-

*Second Plate ; First Side.*

- 5 [ख्या]तपराक्रमस्य श्रीदेववर्मणः प्रियपुत्रस्त्रिकूटमलयाधिपति-
- 6 र्जयविनयसत्त्वसंपन्नो<sup>६</sup> भगवच्छ्रीपद्मवर्तमानमिपादान-

<sup>1</sup> But not in *-svādhyāya-* (l. 8) and *-ddhyātō* (l. 13).

<sup>2</sup> See above, No. 20.

<sup>3</sup> See above, Vol. XI, p. 220, and cf. Vol. IX, p. 269.

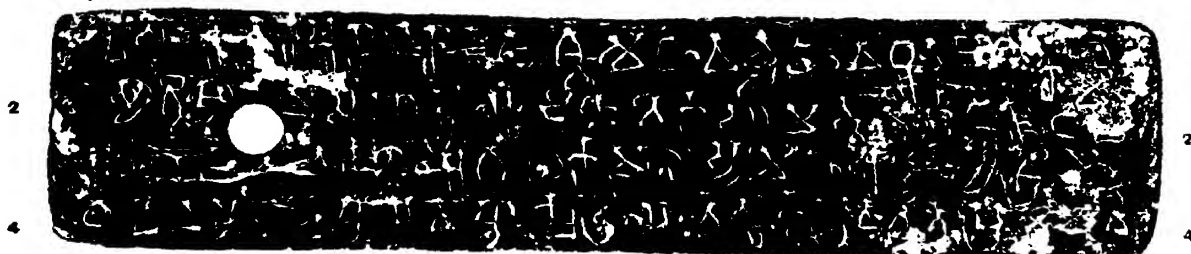
<sup>4</sup> From ink-impressions supplied by Rao Bahadur H. Krishna Sastri.

<sup>5</sup> Read °चरचकमलयुगलस्य.

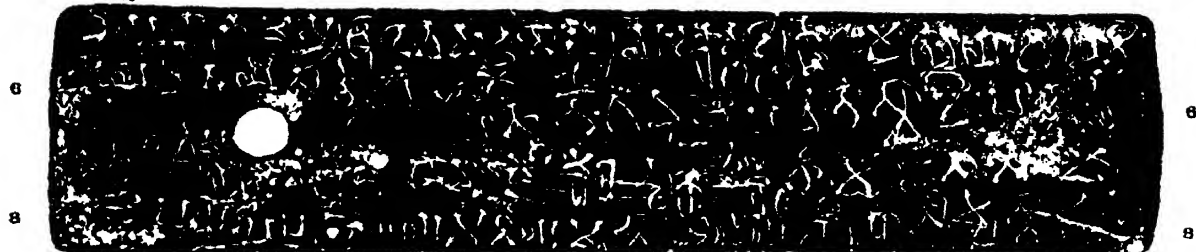
<sup>6</sup> Read °सत्त्व°.

# Ipur Plates of Madhavavarman II.

i.



ii a.



ii b.



iii.



*Seal*



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| Sanskrit College Library, Calcutta.                 | Agra College Library, Agra.                            |
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| Museum Library, Lucknow.                            | Rangoon College Library, Rangoon.                      |
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| Maharajah's College Library, Trivandrum.            | Baroda Museum Library, Baroda.                         |
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| Maharajah's College Library, Vizayanagaram.         | Bhuri Singh Museum Library, Chamba.                    |
| Elphinstone College Library, Bombay.                | Indian Antiquary, c/o the British India Press, Madras. |
| Prince of Wales Museum Library, Bombay.             | Bombay.  |

- 7 ख्यातो विष्णु — —<sup>1</sup> श्री[म]ाध[वव]र्मा सुरी-क-किष्णामे जनाने[व]मा-  
8 आपयति यथा ॥ यमनियमस्त्राध्यायक्रियासम्पन्नाभ्या-

*Second Plate ; Second Side.*

- 9 . . . . . अग्निशर्मेन्द्र[शर्मा]भ्य[र]-  
10 मा . . . . . [कळि]क-  
11 ग्राम . . . . .  
12 — — जानपदे<sup>2</sup>परिहर्तव्य[\*] [प]रिहार[यितव्यस्य] [\*] यस्य [शास]-

*Third Plate ; First Side.*

- 13 [न]स्यान्ना विष्णुकु[ण्ड]धि[र]ज[ध्या]नोदात्ता ॥ सं [४०] ७ वा प ७  
दि ७ श्री<sup>3</sup> ॥  
14 बहुभिर्वसुधा दत्ता बहुभिरानुपालिता [\*] यस्य यस्य यदा भूमि-  
15 [स्तस्य] तस्य तदा फल[म्] ॥ स्वदत्तां परदत्तां वा यो हरेत वसुधराम् ।]  
16 [गवां] शतसहस्रस्य [हन्तु]<sup>4</sup>पिबति किल्बिष[मिति ॥]

#### TRANSLATION.

(Line 1.) Hail! From [Ama]rapura, the dear grandson of the glorious Mahārāja Mādhavavarman, who had removed the stains of the world by bathing at the end of eleven *Āśvamēdhas*; who had performed thousands of *Agnishōma* sacrifices<sup>3</sup>; (and) whose pair of lotus-feet was studded with the jewels on the top of the diadems of many (bowing) vassals;

(L. 4.) the dear son of glorious Dēvavarman, who displayed matchless, well-known valour in attacking warriors;

(L. 5.) the glorious Mādhavavarman, the lord of the Trikūṭa and Malaya (mountains), who is endowed with policy, modesty, and honesty; who meditates on the feet of the holy lord of Śrīparvata; (and who belongs to the family) of the Viṣṇu[kuṇḍins], commands as follows the men at the village of . . . . .

[Line 8 f. seems to refer to two donees, Agniśarman and Indrasarman.]

(L. 12.) The command (*ājñā*) of this edict<sup>4</sup> was ennobled by the meditation (?) of the overlord of the Viṣṇukūṇḍins.

(L. 13.) The year [4] 7, the 7th day of the 7th fortnight of the rainy season.<sup>5</sup> *Om.*

[Lines 14-16 contain two of the customary Ślokas.]

<sup>1</sup> Restore perhaps विष्णुकुण्डिना.

<sup>2</sup> Expressed by a symbol.

<sup>3</sup> These two epithets occur also in line 6 f. of the other Ipūr plates (above, No. 20).

<sup>4</sup> Cf. *asya śōranasy-ājñaptiḥ*; *South-Ind. Inscr.*, Vol. I, p. 57, text 1 113 f.

<sup>5</sup> With *vā pa* 7 cf. *vāsa* 6 in the Hīrahadagalli plates (above, Vol. I, p. 7); *varṣa-pakṣe* *chaturthē* (Vol. III, p. 262); *varṣa-pakṣaḥ aśvīnī* (*Ind. Ant.*, Vol. VII, p. 37); *vāsa-pakṣa* 8 in two inscriptions at Jaggayya-pēṭa (ASSI., Vol. I, p. 110); *vā pa* 4 at Kārī (above, Vol. VII, p. 64); *vāsa pakṣe* 2 and *vāśānī pakṣe* 4 at Nāsik (Vol. VIII, pp. 71, 72.)



No. 22.—REVISED TEXT AND TRANSLATION OF TWO OF THE  
KURAM PLATES.

By PROFESSOR E. HULTZSCH, PH.D., HALLE.

Some time after I had published the Kūram copper-plates of the Pallava king Paramēśvaravarman I,<sup>1</sup> the late Professor Kielhorn recognised that plates III and IV of that inscription in which I had noticed only two verses, are all in poetry. I now reprint the very corrupt text of this portion of the inscription (ll. 19-49), arranging it in verse lines, correcting the writer's mistakes, as far as I am able to do this, in notes, and adding a fresh translation. Rao Bahadur Krishna Sastri was good enough to contribute to this article a few additional conjectures, *vis.* °धनुषि, verse 12; युक्तमटे or उत्तमटे, v. 14: स्रगमद°, v. 15; कृतवान्, v. 21; स्रष्ट, v. 23.

The subjoined passage consists of 22 verses (5-26). The relative pronouns in verses 5, 6, 21, and 26 refer to the name of the donor *Paramēśvaravarmanā*, l. 19) at the end of the preceding prose passage. Verses 8-21 form one long relative sentence, describing the king's victory over the Chalukya king Vikramāditya I. Verses 22-26 praise Paramēśvaravarman's state-elephant Arivāraṇa, his charger Atiṣaya, his dagger, and his girdle.

TEXT.<sup>2</sup>

महेन्द्रवर्माणः . . . . पुत्रः . . . . परमेश्वरवर्मा  
भरत इव सर्व्वदमनः[\*] सगर इव कृतासमञ्जसत्यागः [1\*]  
कर्ण इव पुष्कलांगो यः प्रियक[1\*]व्यो ययातिरिव [॥ ५ ॥\*]

(a) Metre of verses 5-9: Āryā (30+27 mātrās).

अनुपनतानां राज्ञा (a) यस्याज्ञा भवति सर्व्वदापीका (b) [1\*]  
सैव सुहृदाम्प्रयच्छति सुखशीमा (c) कर्णपूरतया [॥ ६ ॥\*]

(a) Read राज्ञा. (b) Read °पीडः. (c) Read °शीमा.

चतुरः कलाविक्षासि नियतम् यथांदो (a) भवत्यनंगस्य [1\*]  
सुक्तागुणस्तु हृदये सुक्तागुण एव वनिता[ना]म् [॥ ७ ॥\*]

(a) Read नियतं चंडी

अगणितनरहयकरिकुलविमर्द्जनिनेन रेणुतुहिनेन [1\*]  
आरोपितशशिमण्डलसादृश्यसहस्रकरविम्बे [॥ ८ ॥\*]  
पटहरवगर्ज्जितोये विक्रोशनिस्त्रिंशत्विद्युदाभोगे (a) [1\*]  
प्रचरितकुञ्जरजलदे विकालवर्षावतार इव [॥ ९ ॥\*]

(a) Read °निस्त्रिंशत्विद्यु (dyn)°.

<sup>1</sup> South-Indian Inscriptions, Vol. I, pp. 144 ff.

<sup>2</sup> As the notes on the text are numerous and contain long Nāgarī passages, I am using for them ordinary type instead of the small and indistinct note-type, which, as I know from experience, is liable to breaking and dropping.

...  
iii a.

[illegible]

iii b.

28
28
30
32
20
28
30
32

34  
 36  
 38  
 40

34  
 36  
 38  
 40

42  
 44  
 46  
 48

42  
 44  
 46  
 48

तुंगतुरंगतरंगी प्रचरत्कारिमकरजनितविषमावसो (a) [1\*]

अविरक्तमुदीर्णशंखे विजृम्भमाणे समुद्र इव [॥ १० ॥\*] (b)

(a) Read °वर्ने. (b) Metre : SugIti (32+27).

खड्गलतावरणयुते सगरासुननागतिलकपुन्नागघने [1\*]

उद्यतकलकलशब्दे कानन इव चण्डवेगपवनाकुलिते [॥ ११ ॥\*] (a)

(a) Metre : Āryāgiti (32+32).

योधापुरोतधनुषु (a) व्यतिपतितपतत्रिरुद्धपवनफथे (b) [1\*]

प्रचरिततोमरशक्तिप्रासगदाकणयकप्यणचक्रे (c) [॥ १२ ॥\*] (d)

(a) Read योधापुरितधनुषि. (b) Read °पवनपथे. (c) Read °वर्णच°. (d) Metre : Pragiti (30+29).

अन्योन्यलीशरदनकुलीशस्थिरकिलितवदनमत्तगजबृन्दे (a) [1\*]

अन्योन्यमूर्धपातितखड्गव्यतिपक्ततुरगसादिगणे [॥ १३ ॥\*] (b)

(a) Read अन्योन्यरदनकुलिशस्थिरकौलित°. (b) Metre : Giti (30+30).

शस्त्राशस्त्रकचाकचिदण्डोर्कियाप्रव्यक्तभटजने (a) [1\*]

अन्योन्यसदृशगणनपरिभवनीर्यातना (b) [॥ १४ ॥\*]

(a) Read शस्त्राशस्त्रिकचाकचिदण्डादण्डक्रियाप्रयुक्तभटे or °प्रवृत्तभटे. (b) Read °गणनापरिभवनिर्यातना. The remainder of this verse is left out by the writer.

मृशमदमिश्रोतशीणितकुंकुमघनलिप्य[मा\*]नभूमितले (a) [1\*]

विरहितनिपतितबाहुग्रीवाजंघो]रुकाण्डदन्तबलीये (b) [॥ १५ ॥\*] (c)

(a) Read मृशमदमिश्रित°. (b) Read °लौचे. (c) Metre : Lalitā (30+32).

भूहस[म्या]तविदीर्णप्रजवितविद्रुत[भूमित]तोभयपथे (a) [1\*]

अन्योन्यजयपराजयसन्देहप्रेखलग्नलक्ष्मोविहिते (b) [॥ १६ ॥\*] (c)

(a) From [म्या]त to the end, this line is engraved on an erasure. To satisfy the metre अभिसन्धात् might be read. (b) Read perhaps °विहिते. (c) Metre of verses 16-19 : Āryāgiti.

रुधिरौघपालिकायोतपतितगजश्रेणिपृष्ठविचरत्सुभटे (a) [1\*]

अन्योन्यघातरन्ध्रानधि[ग]मलसक्तियायतस्थितयोधे (b) [॥ १७ ॥\*]

(a) Read रुधिरौघपालिकायित° and °पृष्ठ°. (b) Read °लुप्तक्रियायित°.

शस्त्रीयतभुजदण्डैः (a) सारभविलोहिताक्षदष्टोष्ठपुटे[:\*] (b) [1\*]

राजन्यै[:\*] कृतकृत्यैः नोद्धतिता[र्ध]द्वतैरितस्थितः (c) संकीर्णं च (d) [॥ १८ ॥\*]

(a) Read शस्त्री. (b) Read संरम्भ°. (c) Read °कृत्यैर्निहतार्धद्वतैरितस्थितः. (d) The metre requires च to be cancelled.

श्रीर्णध्वजातपत्रै[:\*] पतितगजशः(a)सितचलितचामरनिकरे [1\*]

खण्डितविद्युदितचूर्णितमकुटगदहारकटककर्णाभरणे (b) [॥ १९ ॥\*]

(a) Read °गजाशः. (b) Read °मकुटामण°.

दधिरमधुपानमत्तप्रगीतकूषाण्ड[राक्ष]सपिशाचे [1\*]

द[त्त]लयतुल्यकालप्रतिभयनीनृत्यम्कवन्धशत्रयोनी (a) [॥ २० ॥\*] (b)

(a) Read °भयनत्यरकवन्धशत्रयोनी. (b) Metre : Giti.

[योने]कलाक्षसाधनमा[योध]नशिरसि (a) विक्रमादित्य[म्] 1\*

कण्ठमात्रपरिच्छदम्(b) एकाकिपलायितम् [कृत](c) [॥ २१ ॥\*] (d)

(a) Read °लक्ष°. (b) Read कर्णट°. (c) Read °च्छदमेकाकिपलायितं इत्याम्. (d) Metre : Āryā.

रत्नप्रभाखचितकाञ्चनशारिबन्ध (a)

साम्राज्ञ(b) नागमकिवारणनामधेय[म्\*](c) [1\*]

नित्यानुबन्धमदनिजरमद्रिनाथ (d)

साक्षादिव द्विपसहस्रकृतानियात्रम् (e) [॥ २२ ॥\*] (f)

(a) Read रत्न° and °बन्ध. (b) Read साम्राज्ञ. (c) Read °नरिवारण°. (d) Read °निर्भरमद्रिनाथ°. (e) Read °कृतानियात्रम्. (f) Metre : Vasantatilakā.

विदशपतितुरंगस्येवमष्टमंगलयत्रे (a)

वरसञ्चलसम् प्रव्यक्तकल्याणजातिं(b) [1\*]

तुरगमतिशयाख्यां(c) रत्नपल्याणवन्तम्

सतमपि (d) हयलक्षैश्चामरच्छन्नकर्णे[ः ॥ २३ ॥\*] (e)

(a) Read perhaps °तुरंगस्यष्टमंगलययात्रं. (b) Read perhaps वरमनलसम्प्रव्यक्त°. (c) Read °याख्यां वरपल्याणवन्तं. (d) Read सतमपि. (e) Metre : Mālinī.

समरपरित्रयमस्य सदृत्वशमहपलमलयुजवोकम् (a) [1\*]

रत्नखरमनुपम (b) माणिक्यमरकतनिवेशमण्डनम् [॥ २४ ॥\*] (c)

(a) Read °शमसदृशं त्वममहोपलमालायुजमेकम्. (b) Read रत्न° and °मनुपमं च. (c) Metre : Giti.

स्रज्जागुणं गुणस्तकटिसूत्रम् उदीर्णम् मणिप्रभम् (a) [1\*]

भासुरकिरणमालिकोटमाणिक्यमनघमविश्रुतम् (b) [॥ २५ ॥\*] (c)

(a) Read गुणवरकटिसूत्रमुदीर्णमणिप्रभम्. (b) Read °कोटिमाणिक्यमनघमविश्रुतम्. (c) Metre : ?

मनसि भयवि[— — —\*]र्षयन्यार्थिवाणा- (a)

न्दिशि दिशि चटितनित्यो यशम् पुष्पमाला[म्\*] (b) [1\*]

इदम् महरदशेष (c) सक्तया शक्तलक्ष्म्या

सह वपुषी (d) विशेषालंकृते वीरकृत्या [॥ २६ ॥\*] (e)

(a) Read perhaps भयविषादावर्ष°. (b) Read शक्तिवारिदो यशःपु². (c) Read इयमहरदशेष. (d) Read वपुषि. (e) Metre : Mālinī.

TRANSLATION.<sup>1</sup>

**Mahēndravarman's . . . . . son (was) . . . . . Paramēśvaravarman,**

(Verse 5.) who was a subduer of all (enemies), just as Bharata (bore the surname) Sarvadamana<sup>2</sup>; who avoided improper conduct (*asamañjasa*), just as Sagara banished (his son) Asamañjasa<sup>3</sup>; who possessed a strong body (*aṅga*), just as Karna (was the king) of the rich Aṅgas; who was fond of poems (*kāvya*), just as Yayāti was fond of (his father-in-law) Kāvya (Uśanas);

(Verse 6.) whose command always becomes a chaplet on the heads of (*i.e.* is received with respect by) independent kings, (but) also confers splendour on the faces of (*i.e.* fills with joy) (his) friends by reaching (their) ears, [just as an ear-ring (*karnaṇḍikā*) becomes an ornament to the face];

(Verse 7.) (who) is clever in the sport of fine arts (*kalā*) (and) constantly passionate in love,<sup>4</sup> and who avoids vice (*mukt-āguṇa*) in (his) heart, (but) also (becomes) a pearl-necklace (*muktā-guṇa*) on the breast of (his) wives;

(Verse 21.) who put to flight Vikramāditya,—whose army (had consisted) of several lakhs, (but who was left) quite alone (and) covered only by a rag,—at the head of a battle,

(Verse 8.) in which the disk of the sun was made to assume the likeness of the circle of the moon through the mist of dust produced by the stamping of countless troops of men, horses, and elephants;

(Verse 9.) which inspired terror through the thunderlike sound of kettle-drums; in which unsheathed swords (reminded of) the curves of flashes of lightning; in which elephants were advancing like clouds; (and which therefore) resembled an unseasonable breaking of the monsoon;

(Verse 10.) in which tall steeds (looked like) high waves; in which elephants tore up the ground on their path, just as sea monsters produce whirlpools in diving up; in which conches were incessantly blown (or : cast up); (and which therefore) resembled the gaping ocean;

(Verse 11.) which contained curved swords and shields (*avarana*), (resembling) rhinoceroses, creepers, and *varana* (trees); which teemed with heroes holding bows and (riding) mighty elephants, (as if it were) covered with *śara* (grass) and with *asana*, *nāga*, *tilaka*, and *punnāya* (trees); in which confused noises were raised; (and which therefore) resembled a forest agitated by a violent wind;

(Verse 12.) in which bows were bent by warriors; in which the air was obstructed by arrows flying past each other; in which javelins, pikes, darts, clubs, lances, spears, and discuses were flying about;

(Verse 13.) in which troops of *maṣṭ* elephants firmly impaled each other's faces with the thunderbolts of their tusks; in which squadrons of horsemen were connected by their swords that had struck each other's heads;

<sup>1</sup> To make the construction clear, I had to place verse 21 before verse 8.

<sup>2</sup> Cf. *Mahābhārata*, I, 74, 8; VII, 68, 7, and *Śakuntalā*, ed. by Cappeller, p. 93, l. 2; p. 95. l. 24; p. 97, l. 8; p. 102, l. 21.

<sup>3</sup> In the epic poems he is called Asamañja or Asamañjas.

<sup>4</sup> The poet seems to hint a comparison of the king to the moon, who is 'charming in the splendour of his digits (*kalā*),' and to Śiva, who 'was angry with the god of love.'

(Verse 14.) in which soldiers were engaged in fighting with sword against sword, pulling of hair against pulling of hair, and club against club; . . . . . considering each other as equal (or) despising (each other);

(Verse 15.) in which the ground (seemed to be) thickly smeared with saffron, as the blood (of the wounded) was mixed with the musk (anointing their bodies); in which (both) large armies had lost and dropped arms, necks, shanks, thigh-bones, and teeth;

(Verse 16.) in which, during the encounter, both parties were broken, urged on, put to flight, and stretched on the ground; which was witnessed by the goddess of fortune sitting on the swing of doubt about mutual victory and defeat;

(Verse 17.) in which brave warriors were marching on the back of lines of fallen elephants forming a bridge over the flood of blood; in which soldiers stood rendered motionless, as their blows did not hit each other's weak parts;

(Verse 18 f.) which was covered here and there with elephants which had fallen (simultaneously with shattered banners and parasols), and whose respirations waved the mass of chowries and with dead (or) half-dead warriors who had done their duty, whose strong arms (still) raised the weapon, whose lips were bitten, and whose eyes were deep-red with fury; in which tiaras, armlets, necklaces, bracelets, and ear-rings were broken, crushed, and pulverized;

(Verse 20.) in which Kāshmāṇḍas, Rākshasas, and Piśāchas were singing aloud, as they were intoxicated by drinking the liquor of blood; (and) which contained hundreds of headless trunks dancing together in a fearful manner and beating the time (with their hands).

(Verse 22.) Having caused to be accoutred the elephant named Arivārṇa,—whose golden howdah was studded with the splendour of jewels, the flow of whose rut was incessant, (and who therefore) resembled the king of mountains (Himālaya) himself, whose torrents never cease to flow,—followed by thousands of (other) elephants;

(Verse 23.) also the excellent horse named Atiśaya,—who displayed the majestic stepping of the horse of the lord of gods (Indra); who manifested his noble breed by his active jumping; (and) who bore a saddle (set with) jewels,—accompanied by lakhs of (other) horses whose ears were surmounted by chowries;

(Verse 24.) (and having put on) an unique and unequalled curved dagger (set with) jewels, which was fit for the fatigue of battle, attached to a string of matchless big stones, (and) ornamented by being inlaid with rubies and emeralds;

(Verse 25.) (and) a valuable, priceless, famous girdle (which was strung) on a soft string, which emitted the splendour of gems, and the ruby at the end of which (resembled) the bright sun;

(Verse 26) he (*viz.* Paramēśvaravarman) who had destroyed his enemies, inspiring with fear [and despair] the minds of princes, (and spreading) the flower-garland of (his) fame in all regions, carried all these (ornaments)<sup>1</sup> on (his) body that was highly adorned with heroic deeds,—along with the powerful goddess of fortune elinging (to him).

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<sup>1</sup> This seems to refer to verse 24f.

No. 23.—DHANAIDAH COPPER-PLATE INSCRIPTION OF THE TIME OF  
KUMARAGUPTA I: THE YEAR 113.

BY RADHAGOVINDA BASAK, M.A., CALCUTTA.

This inscription, engraved on a thin copper-plate which now looks very much worn out and fragile, was discovered about a decade and a half ago in a village called Dhanāidaha in the Nātoro Sub-division of the Rājshāhi District in the Rājshāhi Division of the Bengal Presidency. Babu Akshaya Kumāra Maitrēya, B.L., Director of the Varendra Research Society of Rājshāhi, obtained it from Maulvi Muhammad Ershed Ali Khan Choudhuri (now Khan Bahadur), and it is now deposited in the Museum of the Society along with the five copper-plate inscriptions<sup>1</sup> of the Gupta period recently discovered at Dāmōdarpur in the District of Dinājpur. It was edited in 1909 by Mr. R. D. Banerji, then of the Calcutta Museum, in the *Journal of the Asiatic Society of Bengal* (Vol. V, No. 11, pp. 459-61). Mr. Banerji's decipherment of the inscription was not correct, and the text as prepared by him contained some mistakes. Mr. Vincent Smith in his *Early History of India* (3rd Edition) has referred to this epigraph by the name of the Nātoro inscription in a foot-note at page 327; but he could not make out any material for the history of the period, probably because Mr. Banerji's reading was unsatisfactory and because of his remarks that "the wording of the record is rather difficult to interpret," and that "no continued translation is possible of the text." While editing two of the Dāmōdarpur inscriptions belonging to the same monarch's reign, I had to revise the reading of this inscription, and I re-edited it in the Bengali monthly, the *Sahitya* of Calcutta, in the Pausha issue, 1323 B.S. I now record the results of my decipherment in this Journal for the scrutiny of scholars. Some of the chief mistakes in Mr. Banerji's reading will be pointed out below in the foot-notes. Other differences in our readings may be left to be found out by those of our readers who may care to do so.

The inscription is a fragmentary one, consisting of 17 lines of writing incised in the early Gupta characters of the 5th century A.D. It is written on one side only of the plate, which is now very much corroded. In length the full plate seems to have been almost twice the fragment now preserved, which measures  $5\frac{1}{4}" \times 5\frac{1}{2}"$ . Almost the whole of the proper right half of the plate is broken and lost together with the upper right and lower left corners. From an examination of the portions of the writing preserved in lines 14-16, which form parts of the well-known imprecatory verses, it can be ascertained that about a dozen and a half letters are cut off from the proper right side of each of the lines. This loss of almost half of the inscribed portion and the extremely blurred state of the letters preserved are the greatest obstacles in explaining the document. But the five newly discovered Dāmōdarpur copper-plates and the four Faridpur grants<sup>2</sup> have helped us much in deciding that the present plate also, like them, is not an ordinary royal land-grant, but is a sale-deed embodying the record of a purchase of land for the purpose of donation. Mr. Banerji states that the fragments of the proper upper right corner, which was broken in the exhibition grounds of the Calcutta Industrial Exhibition of 1906-7, contained the two letters *ma* and *ra*, which, he thinks, were evidently the second and third syllables of the name of the emperor Kumāra-gupta. The inscription is dated in 113, which must be referred to the Gupta era, and this evidently proves that it belonged to the time of the Gupta

<sup>1</sup> Above, Vol. XV, No. 7. I take this opportunity to acknowledge most thankfully the suggestion of Mr. K. N. Dikshit, M.A. Superintendent of Archaeology, Eastern Circle, that I should have read 128 in place of 129 and 224 in place of 214 as the dates in Plates Nos. 2 and 5 respectively of the Dāmōdarpur inscriptions. These corrections in the dates do not quite materially affect the historical deductions I made in my paper on them published in this Journal.

<sup>2</sup> *Indian Antiquary*, 1910 and *J. A. S. B.*, 1911, No. 8.



monarch Kumāra-gupta I. The language of the inscription is Sanskrit, and it is in prose throughout excepting in lines 14-16, which contain the three imprecatory verses. Mr. Banerji's statement that "the bad state of preservation makes it very difficult to make any remarks on the orthography" cannot be upheld; for, the following points in respect of orthography may easily be observed :—

(1) as in the Dāmōdarpur copper-plates, the sign of the medial *ā* is attached by a hook-sign towards the bottom of the lower right of some of the letters, especially of *kha*, *ga* and *ṇa*, e.g. *khāsaka* l. 5, *Khādā(ṭā?)pāra* l. 7; *grām-āṣṭa* l. 6; and *guṇ-āguṇa* l. 13;

(2) the sign of *aragraha* is not used, as in *-vishayē=nuvṛitta* l. 7;

(3) the letters *ga*, *ṇa*, *ta*, *ma*, *ya* and *va* (and not *sha*, e.g. *varsha* l. 15) are doubled with a preceding *r*, e.g. *vargya* l. 4, *siarggē* l. 15; *utkrṇṇam* l. 17; *kṛtti* l. 4; *-śarmma* ll. 3 and 5, *dharmma* l. 8; *-māryyādā* l. 7; and *-pūrva* ll. 2 and 16, *sarvva* l. 9;

(4) *m* has sometimes been joined with following *pa* and *va*, e.g. in *svadattām-para-dattām=vā* l. 14; and

(5) *ka* has been doubled with a following *r*, e.g. in *kkramēna(ṇa)* l. 8.

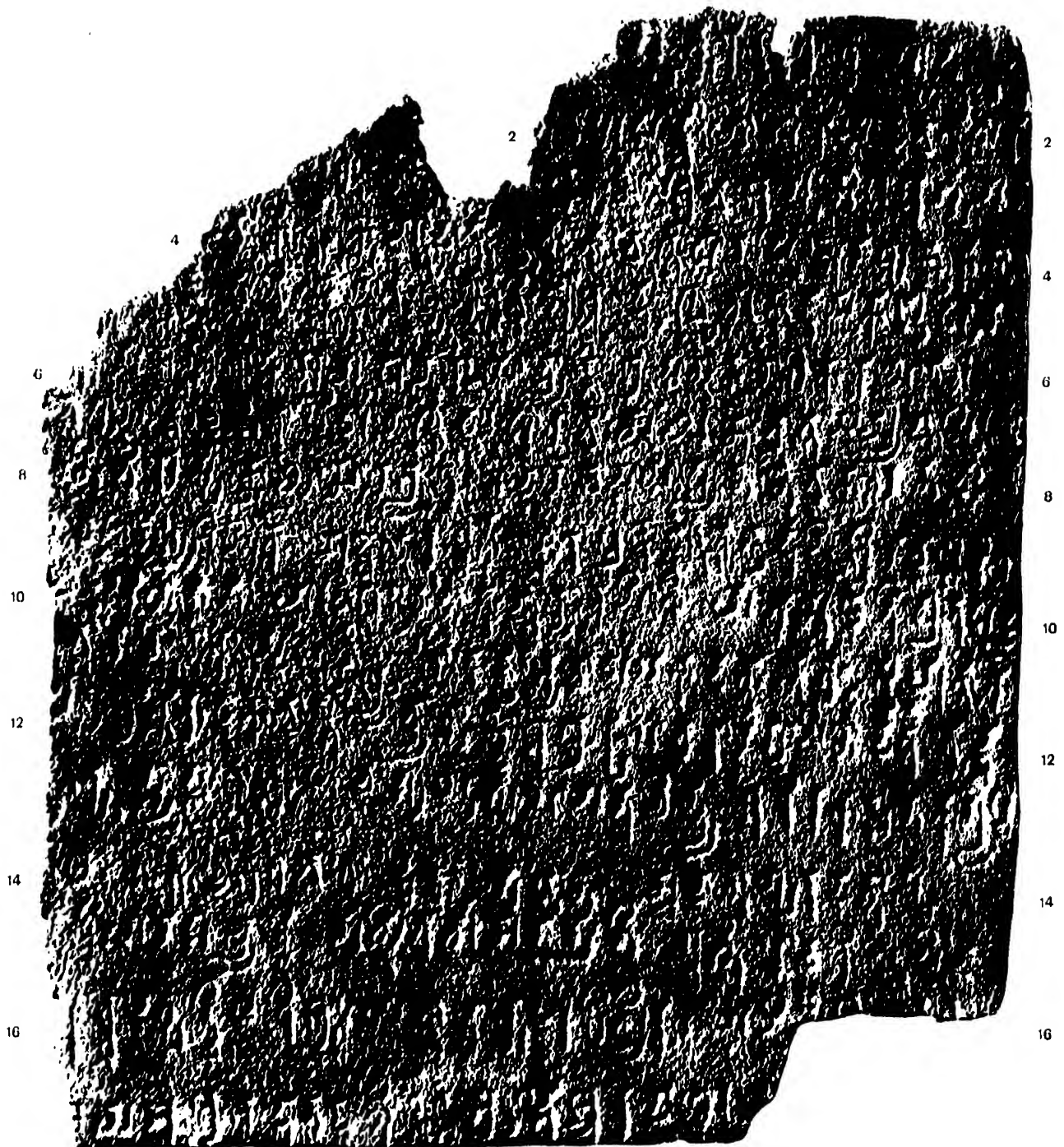
The form of the initial vowels *ā*, *i* and *u* are seen in the following words respectively, *āyuktaka* l. 11, *iha* l. 7, and *utkrṇṇam* l. 17. The form of the letter *mē* in *kkramēna(ṇa)* l. 8, *sarvva=ēva* l. 9, *Stha(Sta)mhbhēśvaru* l. 17, and *-kulyavāpam=ēkaṁ* l. 11, is to be noticed. For a similar incision of *mē*, especially the *ē* mark in it, we may compare the words *kāvyam=ēśhām* l. 31 in Fleet's, C. I. I. Vol. III, No. 1 and *guhām=ētām* l. 5 (*ibid*, No. 6), and the word *dōsha-grāmō* l. 1 (wrongly read as *dās-āgrēna* by Mm. H. P. Śāstri and Mr. R. D. Banerji) of the Susunia Rock Inscription (above, Vol. XIII, p. 133). In my paper on "The Five Damodarpur copper-plate inscriptions of the Gupta period," published in this Journal (*vide* Vol. XV, Part III), I made a remark at the outset that those sale-deeds, which our present inscription resembles, "may be regarded as having roughly six different parts in the form in which they are drawn up." The same remark holds good with regard to this inscription also. The first part ends with the word *viññāpitā* l. 7, the second with *dā[tuṁ]* l. 8, the third with *tad=avadhṛitam=itī yatas* l. 10, the fourth with *ēkaṁ dattam* l. 11, the fifth with *-Varāha-svāminō dattam* l. 12, and the sixth with the rest of the grant.

The contents of the inscription may be stated as follows :—In the year 113 G.E. (=432-33 A.D.), belonging evidently to the reign of Kumāra-gupta I, some one (very likely a royal officer, an *āyuktaka*) whose name seems to have ended in *-vishṇu* (l. 7) approached the village householders, the *mahattaras* and the *āṣṭa-kul-ādhikarāṇas* and perhaps also the local government of the district and expressed to them his desire to purchase one *kulyavāpa* of cultivated land by paying the price at the usual rate prevalent in the *vishaya* of *Khādā(ṭā?)pāra*. It seems that the applicant wanted to buy the land by destroying the *nivṛt-dharma* (the non-transferability of it), i.e. with the right of alienation. His prayer was granted and the purchased land was severed for him by proper measurement. He in turn seems to have made a donation of the same to a *Sāmavēdin Brāhmana* (*chhandōga* l. 12) of the name of *Varāha-svāmin*. It seems very probable, though the mutilated condition of the plate does not permit us to be very confident on the point, that the *Dhanāidaha* plate contained a reference to the *Puṇḍravardhana bhukti* being under a governor appointed by the Gupta ruler (compare the Dāmōdarpur plates of the years 124 and 128 G.E., belonging to the same monarch's reign) and that the *vishaya* of *Khādā(ṭā?)pāra* was, like *Koṭivarsha*, one of the many districts of the same *bhukti*. In the *Khālimpur* copper-plate<sup>1</sup> of *Dharmapāla*, King of *Gauḍa*, though of the 9th century A.D., we have the names of two other *vishayas*, viz. *Mahāntāprakāśa* (l. 31) and *Sthālikkaṭa* (l. 41), as being situated in the *bhukti* of *Puṇḍravardhana*.

<sup>1</sup> Above, Vol. IV, p. 249.



Dhanañidhana. Copper-plate of the time of Kumāragupta I: the year 113.



I edit the inscription from the original plate:—

TEXT.

- 1 . . . . . mvatsara<sup>1</sup>-śat[ē] trayōdaś-ōtta<sup>2</sup>.
- 2 . . . . . n=d[i]vasa<sup>3</sup>-pārīvāyām parama-daivata-para<sup>4</sup>
- 3 . . . . . ā (?) kuṭu[mbi] . . . . . brāhmaṇa-Śivaśarma-Nāgaśarma-  
ma-maha<sup>5</sup>
- 4 . . . . . va-kīrtti-Kshēnadatta<sup>6</sup>-Goshṭhaka - Varggapāla - Piṅgala - Śūtkuka-  
Kāla-
- 5 . . . . . pa (?) -vishṇu - [Dēva]śarma - Vishṇubhadra<sup>7</sup> - Khāsaka - Rāmaka-  
Gopāla-
- 6 . . . . . sa (?) su (?) Śrībhadra-Sōmapāla-Rām-ādyāḥ (?) grām-āshṭa-kul-  
ādhikarapañ=cha
- 7 . . . . . vishṇupā (?) vijñāpitā iha<sup>8</sup> Khada(ṭa ?)para-vishayē-nuvṛitta<sup>9</sup>-  
maryyādā-sthi[ti]-
- 8 . . . . . nivi-dharma-kshayēṇa labhya[tō] [ta]d=arhatha mam<sup>10</sup>-ādy-  
ānēn=aiva kkramēna(ṇa) dā[tuṃ]
- 9 . . . . . samētya=ā(?)bhīhitai(h ?) sarvva=ēva \* jūā(?)kara-prativēśi(?)=  
kuṭumbibhir=avasthāpya ka-
- 10 . . . . . \* ri \* kana \* yad=itō \* \* [ta]d=avadhṛitam<sup>11</sup>=iti yatas=  
tath=ēti pratipādyā
- 11 . . . . . vaka<sup>12</sup>-nalā[bhyā]m=apaviñchhya kshētra-kulyavāpam=ēkaṃ dattam  
tataḥ āyuktaka-
- 12 . . . . . \* bhrā(?)tṛi - kaṭaka - vāstavya<sup>13</sup> - chhandōga - brāhmaṇa - Varāha=  
svāminō dattam tad=dha-[va ?]
- 13 . . . . . bhūmyā dā[n=ākshē]pō cha guṇ-āguṇam<sup>14</sup>=anuchintya śarīra-  
ka(kā)ñchanakasya chi-
- 14 . . . . . ā [u]ktañ=cha bhagavatā Dvaipāyanēna Svadattām=para-dattām=  
vā
- 15 . . . . . [bhiḥ] saha pachyatō [||\*] Shashṭim<sup>15</sup> varsha-sahasrāni(ṇi)  
svarggō mōdati [bhū]midat [||\*]

<sup>1</sup> Read *saṃvatsara*-. .

<sup>2</sup> Read *-ōttarē*.

<sup>3</sup> Read *asyān=divasa*-. .

<sup>4</sup> Read *-paramabhaṭṭāraka*-. In the Dāmōdarpur plates also Kumāra-gupta I is styled *parama-daivata*.

<sup>5</sup> Read, perhaps, *mahattara*-. .

<sup>6</sup> & <sup>7</sup> Mr. Banerji reads *Kshamavanta* and *Vishyabhadra*.

<sup>8</sup> Mr. Banerji reads *Mahā-khushāpāra*.

<sup>9</sup> Mr. Banerji reads *nivatta* instead of *anuvṛitta*.

<sup>10</sup> Mr. Banerji's reading "*māśādyā nanu vakka lēna (?)*" instead of our reading "*mam=ādyā-ānē=aiva kkramēna(ṇa)*" and his remark on the palaeography of his supposed *la* in his own reading *lēna (?)* is unwarranted.

<sup>11</sup> Instead of *avadhṛitam=iti yatas=tath=ēti* Mr. Banerji read *dahyakam=iti yatas=t(y)ajati*.

<sup>12</sup> Read *ashṭaka-nava-ka-nalābhyāḥ*. The sense of the whole document depends on the correct reading of this line of the inscription, and Mr. Banerji's reading gives no help. His reading of the whole line is as follows:—  
" . . . . . vāra nālaka sada (?) vī . . . . . chya . . . . . . kṛitya vasa-laka (?) datta tataḥ  
suyuktaka . . . . . "

<sup>13</sup> Mr. Banerji reads *vantēbhya (?)* for *vāstavya* and *chāndatā (?)* for *chhandōga*.

<sup>14</sup> Mr. Banerji reads *suṇu (?)* *guṇam*.

<sup>15</sup> Mr. Banerji reads *śaśṭi(ṇi)*.

- 16 . . . . . [Pū]rrva-dattām dvijātibhyo yatnād-raksha Yudhishtira [\*]  
mahīm [mahī][matāñ-chhrēshṭha\*]  
17 . . . . . ya[m] su (?) Śrībhadrēna(ṇa) utkirṇam Stha(Sta)mbhē-  
śvara<sup>1</sup>dāsē[na] . . . . .

## TRANSLATION.

In the year one hundred exceeded by thirteen . . . . . on this day (as above specified), [during the reign of] *parama-daivata parama-bhaṭṭāraka*, etc. *Kumāra-gupta* . . . . . the ryots (of the village) . . . . . the Brāhmaṇas Śiva-śarman, Nāgaśarman and the *Mahattaras*<sup>2</sup> [DēP]vakīrtti, Kshēmadatta, Gōshṭhaka, Varggapāla, Piṅgala, Suṅkuka, Kāla . . . . ., -vishṇu, Dēvaśarman, Vishṇubhadra, Khāsaka, Rāmaka Gōpāla, . . . . . su (?) Śrībhadrā, Sōmapāla, Rāma and others, and the officer<sup>3</sup> in charge of eight *kulas* in the village were informed by (some officer whose name appears to have the ending *Vishṇu* 127) as follows :—

“In this *vishaya* of *Khada(ṭa P)pāra* the established custom (regarding the sale of cultivated land) prevalent . . . . . to be had (at . . . . . such rate) by the nullification of the custom of permanent endowment<sup>4</sup> (*nivṛt-dharma*). So deign to make a gift (of land) this day according to this method . . . . . by the neighbouring house-holders who are obedient and who are (thus) addressed establishing . . . . .”

Whereas it was so determined, and whereas this determination was accepted by the state-ment “be it so”—one *kulyavāpa*<sup>5</sup> of cultivated land was given to him, with its area severed<sup>6</sup> by the measurement of 8 × 9 reeds.

Then the same land was given to the *Chhandōga*<sup>7</sup> (Sāmavedin) Brāhmaṇa *Varāha-svāmin*, an inhabitant of the *kaṭaka*<sup>8</sup> of . . . . ., by this official<sup>9</sup> (*āyuktaka*).

So, considering the merit and demerit respectively of making a gift and confiscating (it), and (the unstability) of body and gold, (this gift is to be preserved). To the same effect has been stated thus by Bhagavān Dvaipāyana (Vyāsa):—

(1) Whoever confiscates land given by himself or by another becomes a worm in ordure and rots with his forefathers.

(2) Land has been given by many kings, such as Sagara and others: the reward (of these grants) belongs to whosoever at any time possesses the earth.

(3) O Yudhishtira, best of land-lords, preserve with care land already given to the twice-born (Brāhmaṇas); for, the preservation of land-grants is more meritorious than the making of a grant. Engraved by su (?) Śrībhadrā and (written) by *Stambhēśvaradāsa*.

<sup>1</sup> Mr. Banerji reads the name as *Sthaknēśvara*.

<sup>2</sup> Vide my note on this word in Plate No. 4 of the Dāmōdarpur collection, above, Vol. XV, p. 137.

<sup>3</sup> Vide my note on this word, *ibid*, p. 137. Mr. Banerji's explanation of this term as “a local officer (*kulādhikarāṇa*) who exercised authority over eight villages” does not seem to be correct. He was rather an officer in the village having supervising authority over eight *kulas* (for the technical meaning of which see Kullūka's commentary on *Manu*, VII, 119).

<sup>4</sup> Vide my note on the term *nivṛt* in Plate No. 1 of the Dāmōdarpur collection, above, Vol. XV, p. 131, n. 8, and *Indian Antiquary*, 1919, p. 14.

<sup>5</sup> Vide my note on this word on p. 132, above, Vol. XV.

<sup>6</sup> The word *apaviñcāṇya* occurs in the Faridpur grants (*Indian Antiquary*, 1910) and in Dāmōdarpur plate No. 3, l. 10, p. 136, above, Vol. XV.

<sup>7</sup> *Chhandōga* means one studying the Sāmaveda. For the use of this term vide *Manu*, III, 145; and the Banskhera Plate of Harsha, above, Vol. IV, p. 211.

<sup>8</sup> *Kaṭaka* may either mean a camp or the capital.

<sup>9</sup> Vide my note on the same in Plate No. 4 of the Dāmōdarpur collection, p. 140, above, Vol. XV.

## No. 24.—SOME IMAGE INSCRIPTIONS FROM EAST BENGAL.

BY NALINIKANTA BHATTASALI, M.A., CURATOR, DACCA MUSEUM.

The short votive inscriptions recorded on the pedestals of images are often very useful to the antiquarian in more ways than one. They not only illumine the darkness of the past like flash-lights by furnishing pointed and concise historical information, but the help that they give in determining the periods of sculptural history is by no means inconsiderable. Students of iconography too have reason to welcome them, since many votive inscriptions contain the names of the images on whose pedestals they are inscribed, helping thus to identify them easily. Below I edit six such votive inscriptions from East Bengal, in some of which all the three characteristics noted above will be found to exist to the fullest degree.

## 1. THE BHĀRELLĀ NARTTĒŚVARA IMAGE INSCRIPTION.

The worship of images of Naṭṭēśa-Śiva (the dancing Śiva) seems to have been a peculiarity of Southern India. Such images in metal abound in Southern India and Ceylon; but they are very rarely met with in the North-Indian Provinces. How Bengal came to share this peculiarity with the Deccan is one of the unsolved problems of history. We must, however, note here that north and west Bengal do not show this peculiarity, and it is only in the south-eastern districts, roughly comprising the ancient divisions of Vaṅga and Samatāṭa, that images of the dancing Śiva were discovered. The Dacca Museum has three excellent specimens, while a rather ill-preserved one is to be found in the Rājshāhi Museum.<sup>1</sup> I know of two other very well preserved Naṭṭēśa images, which are being worshipped in two villages in the Dacca and Tippera districts of East Bengal.

The discovery of so many images of the same class in a rather limited area cannot be accidental, and it is quite possible that their worship was introduced by some Śaiva ruling family. The Sēna kings, whose origin some trace to the Deccan, had their metropolis in Vikramapura in the Dacca district, in the heart of the ancient Vaṅga, as is attested by the majority of their copper-plates, and they were renowned Śaivas. It is very probable that the worship of Naṭṭēśa-Śiva came from Southern India with the Sēnas. It is worth noting that out of the seven images so far discovered and known to me, five came from Vikramapura; and a village situated in the suburbs of the capital of the Sēnas in Vikramapura (a *pargana* in the Dacca district) contains the ruins of a big temple and is still called Nāṭṭēśvara. The present image, however appears to be earlier than the Sēnas.

The inscription here edited was found on the pedestal of a huge image of Naṭṭēśa-Śiva dug out of a tank in a village called Bhārellā, Police Station Baḍkāmtā, in the district of Tippera. It was brought to my notice in 1911; and in 1912 I went to Bhārellā too late to save the image, which was broken to pieces by a fanatic Fakir; but I procured the inscribed pedestal for the Dacca Sāhitya Parishat, where it is at present preserved. A large fragment of the figure of the god is now in the Dacca Museum. I edit the inscription from the original.

The inscription is in two lines in four sections on four planed faces of the pedestal, below the lotus-seat of the god. The whole inscribed surface measures in length about 14", and the letters are approximately  $\frac{1}{4}$ " long. The first section has suffered a little by the peeling of the stone, while the beginning of the third and the longest section has been altogether chopped off, damaging altogether 12 or 13 letters of each line. The first line runs connectedly to the end of

<sup>1</sup> The image was found in the village of Kalikāl under Police Station Lauhajang in the Dacca district. So it must not be taken as an instance of a find in north Bengal.

the third section and then returns to the first section to begin the second line. The name of the sculptor is given in the fourth section in two lines

The characters used are the ordinary north-eastern characters which gave birth to the modern Bengali script, and which even at this stage show distinct resemblance to the modern script of Bengal. Paleographical considerations would lead us to assign the latter half of the 10th century as the time when this inscription was incised. The date is missing; but it may be that the lost portion of the second line in the beginning of the third section contained a date. There are some data from which a date perhaps is obtainable by mathematical calculation. The image was consecrated on a Thursday, under the star Pushya, on the fourteenth day of the dark half of the month, the day being the 14th of Āshāḍha counted by the movement of the moon. It would be a very interesting calculation to lovers of astronomical problems to find out in which year or years between 900-1100 A.D. all these data met. I myself do not possess the necessary equipment for the calculation. Dewan Bahadur L. D. Swamikannu Pillai who was consulted by Mr. Krishna Sastri on my behalf kindly writes :—

“Between 900 A.D. and 1000 A.D. there are three dates which agree perfectly, viz. A.D. 912, 939 and 983. I have marked these with an asterisk in the accompanying list which shows also dates of less perfect agreement. There must be an equal number between A.D. 1000 and A.D. 1100. We cannot tell which of these dates is meant.

Thursday Ashadha, ba. 14. Pushya.

A.D. 905. Th. 4 July; .32; n. f. d. .75.

A.D. 912. Th. 16 July; .09; .63.\*

A.D. 925. Th. 21 July; f. d. t. .52; f. d. n. .68.

A.D. 932. Th. 5 July; .52; f. d. n. .90.

A.D. 939. Th. 18 July; .41; .86.\*

A.D. 942. Th. 14 July; f. d. t. .12; f. d. n. .89.

A.D. 966. Th. 19 July; .71; f. d. n. .09.

A.D. 969. Th. 15 July; f. d. t. .21; f. d. n. .90.

A.D. 983. Th. 12 July; .03; .94.\*

A.D. 993. Th. 20 July; f. d. t. .01; f. d. n. .30.”

He adds: “14th *tithi* means nothing more or less than 14th day by the movement of the moon. A solar month date would be different, but in a lunar month the days and *tithis* are the same in the Indian Calendar. In the Muhammadan, Jewish and Greek Calendars there may be a slight difference.”

The inscription refers itself to the 18th year of the reign of a king **Layaha-Chandra** by name. Kings with the surname Chandra are found on the thrones of two adjacent countries, viz. Vaṅga and Arakan. The Chandra kings of Vaṅga, who, like the Sēna and the Varman kings, had their capital in Vikramapura, are known from two copper-plates.<sup>1</sup> But no name in their genealogy resembles Layaha-Chandra, which sounds indeed rather outlandish. We find an account of the Chandra kings of Arakan in Phayre's *History of Burma*, p. 45, and *Numismata Orientalia*, Vol. II, Pt. I, p. 42, by the same author, where we learn that the dynasty came to an end in 957 A.D. We know of another isolated Chandra king of Vaṅga, Gōvinda-Chandra by name, from Rājendra-Chōla's inscription.<sup>2</sup> Layaha-Chandra-dēva must have belonged to one of these three lines. If Layaha-Chandra was of the Arakan line, 989 A. D. may be taken as the date of this inscription.

<sup>1</sup> *Ep. Ind.*, Vol. XII, p. 186. and *Dacca Review*, Vol. II, p. 250. Recently a third plate of Śrī-Chandra-dēva was found and edited by me in the *Dacca Review* for May and June 1919, 17. XII. 1919.

<sup>2</sup> *Ep. Ind.*, Vol. IX, pp. 232-233,

Ballads, at one time very widely popular are current about a king called Gōvinda-Chandra throughout Bengal. One was published by Grierson in J. A. S. B., 1873. Another was published by Babu Śib Chandra Śil from Chinsura near Calcutta. I published a version by a poet called Bhabānidās, edited from two manuscripts of the song procured from the Tippera district. All these versions say that Gōvinda Chandra was the daughter's son of Tilak Chandra king of Mēhārkul which is still a *pargana* of the Tippera district. Gōvinda Chandra of Rājendra-Chōla's inscription and the Gōvinda-Chandra of the ballads appear to have been the same person, and Layaha may have been the name of the father of Tilak Chandra.

Kusuma-dēva, whose son Bhāvu-dēva consecrated the image of Narttēśvara, seems to have been a vassal prince under the suzerainty of Layaha-Chandra, ruling over Karmmānta, which I am inclined to identify with modern Baḍkāmtā (the senior Kāmtā), some three miles south-west of the find-place of the image. Baḍkāmtā is still a place of considerable importance, being a police station with a big Zemindary kachery, situated within a spacious area surrounded by an ancient moat and containing two big tanks, in the smaller of which many ancient stone images of Brahmanical deities were found. Stone images, both Buddhist and Brahmanical, abound in the villages surrounding Baḍkāmtā, and testify to the former prosperity of the tract. The area surrounded by the moat probably indicates the site of the palace. The appellation *Dēva* at the end of the names of Kusuma-dēva and Bhāvu-dēva is also in favour of supporting their claims to royal dignity. My friend Prof. Rādhāgōvinda Bāsak, M.A., however, is in favour of taking the word Karmmānta to mean 'a store of grain,' and degrading Kusuma-dēva to the rank of an officer in charge of the royal granary. We know that the two plates of Dēva Khaḍga published by the late Gangamohan Laskar in the Memoirs, A. S. B., Vol. I, were issued from Jaya-Karmmānta. I have elsewhere tried to show that Karmmānta the capital of the Khaḍgas and the Karmmānta of the present inscription are identical, and is the present Baḍkāmtā (J. A. S. B., July 1914).

The language of the inscription is Sanskrit prose throughout. As to orthography, we may note the doubling of consonants after *r* as in *karmmānta* (l. 1), *survakshara* (l. 2), etc., but *chaturdaśyām* (l. 1) is spelt with one *d*.

Numeral figures for 1 and 4 are used in designating the 14th day of Āshāḍha.

The letters of the inscription are mentioned to have been engraved by one Ratōka; but Madhusūdana seems to have been the sculptor who made the image.

#### TEXT.

##### Part I.

- 1 [सिद्धिरस्तु<sup>1</sup>] श्रीमन्नयहचन्द्रदेवपादीयविजयराज्ये चष्टा[दश \* \* \* \* \* क]णचतुर्दश्यां  
तिथौ वृहस्पति<sup>2</sup>वारे पुष्यनक्षत्रे कर्मांतपाक्षयो-
- 2 कुसुमदेवसुतश्रीभावुदेवकारितश्रीनर्तेश्वरभट्टा[\* \* \* \* \*] चन्द्रगत्या  
। चाषाढदिने १४ ॥ खनितञ्च रत्तोकेन सर्व्वीश्वरः





##### Part II.

- 1 खनितञ्च श्रीमधु-
- 2 सुदनेनेति ॥

<sup>1</sup> Expressed by a symbol; see below, p. 352.

<sup>2</sup> Read वृहस्पति.



*N. B.*—It is customary to read the auspicious symbol  or  in the beginning of an inscription as  and this interpretation has been adopted by eminent epigraphists like Hoernle and Fleet. Hoernle writes thus (Intro. *Bower Manuscripts, Indian Antiquary* reprint, p. 22):—“Indian manuscripts or records as a rule commence with some benedictory word, such as *siddham* ‘success’ or *swasti* ‘hail’ or with the sacred particle *Om*. The last mentioned is almost universally used at the present day. It may be either written in full or indicated by a symbol. The latter takes the form of a spiral, which may turn either to the right or to the left, and which is probably a conventional representation of the sacred *śankha*, or conch-shell.” In editing the Mankuwar Stone Image Inscription of Kumāra-gupta, where this symbol is met with for the first time, Dr. Fleet remarks (*Corpus. Ins. Ind.*, p. 46, n. 3):—“As was usual throughout the whole of the period covered by this volume, this word is represented by a symbol, not by letters. *Om* is not of very frequent occurrence at the commencement of Buddhist inscriptions.” Thus both the scholars read the symbol as *Om*, but none has advanced any reason for their reading it so. Writing about eight centuries and a half earlier, Al Beruni also says the same thing (Vol. I, p. 173):—“The Hindus begin their books with *Om*, the word of creation, as we begin them with ‘In the name of God.’ The figure of the word *Om* is . This figure does not consist of letters; it is simply an image invented to represent this word, which people use, believing that it will bring them a blessing and meaning thereby a confession of the unity of God.” This passage of Al Beruni is perhaps responsible for the confident reading of Hoernle and Fleet. But the reading should be reconsidered in the light of the following points:—

(a) In Bengal, this symbol was largely used in all ancient documents and manuscripts and in teaching alphabets to beginners they were taught to draw this symbol to start with. This custom was prevalent as late as twenty-five years ago, but has disappeared by this time. This symbol was called *ām̐ji* and was supposed to signify the god Gaṇeśa, the giver of success, being drawn to represent his elephant’s trunk. In reading, it was read *Siddhir=astu*.

(b) In the Gupta inscriptions this symbol only appears in those in which the customary benediction *Siddham* is left out, and nowhere does it appear with it. Consequently it must have stood for *Siddham*, and as time went on it must have become more and more customary to represent the word by this symbol.

(c) In some inscriptions the symbol is found to precede *Om*, which would never have been the case if the two were identical. In such cases the reading given is *Om*, *Om*, which is certainly not reasonable. Reference may be made to *Epigraphia Indica*, Vol. XII, p. 8, *Ibid*, Vol. XIV, p. 159, for examples of the joint use of *Om* and this symbol.

In view of these facts, the symbol, I think, should be read *Siddham* or *Siddhir=astu* <sup>1</sup>


## TRANSLATION.

### Part I.

May success attend! In the eighteenth year of the victorious reign of His glorious Majesty *Layahachandra-dēva*, on Thursday in the dark Fourteenth Tithi, and under the star *Pinshya*, *Bhāvu-dēva*, son of *Kusuma-dēva*, Lord of *Karmānta*, caused to be made the Lord *Narttēśvara* . . . on the 14th day of *Āshāḍha* (calculated) by the movement of the moon. And all the letters engraved by *Ratōka*.

### Part II.

Also engraved by the illustrious *Madhusūdana*.

<sup>1</sup> [This seems to be the proper interpretation of the symbol, in spite of Al Beruni’s statement to the contrary. In the Tamil country the same symbol slightly modified  is even today called the *Pillaiyār-ṣuḷi* ‘Gaṇeśa’s curl’ and is first taught to be drawn by children before they begin to learn their alphabet.—Ed.]

## 2. THE BĀGHĀURĀ NĀRĀYAṆA IMAGE INSCRIPTION.

This inscription was brought to my notice in 1912, when I went to Tippera to secure the inscription described in the foregoing pages. Ramānāth Chakravarty, a former pupil of mine, whom I met in Comillā, gave me to understand that an inscribed image of Viṣṇu had been discovered in a village near the Sub-divisional town of Brāhmanbāriā in the Tippera district and that the local people had been able to read the word Mahipāla on the inscription. My curiosity was considerably roused to come across an inscription of the Pāla kings so far east from their native home in north Bengal. Pressure of business, however, did not allow me to go after the inscription at that time, and for the next two years I was too busy elsewhere to think of getting at it. Towards the beginning of the year 1914 a friend of mine, Babu Upendrachandra Guha, B.A., B.T., who is an enthusiast in matters archaeological, secured chalked photographs of the inscription and published an article with a reading of it in the local monthly, the *Dacca Review*. The reading, however, was rather defective, and I gave a more correct reading in the next number of the journal. I also published a correct reading of the inscription in the January number of the *J. A. S. B.*, 1915 and pointed out its importance.

The image containing the inscription was dug out of a pond some ten or twelve years ago in the village of Bāghaurā near the Sub-divisional town of Brāhmanbāriā in the district of Tippera. It is now worshipped by a half-crazy woman in the neighbouring village of Vidyākūṭa. In January 1915 I visited the spot and obtained some excellent photographs of the image; but no amount of persuasion could prevail upon the woman to part with the image.

The inscription purports to be of the third year of king Mahipāla, presumably Mahipāla I of the Pāla dynasty of Bengal. It records the installation of the god Nārāyaṇa in Samataṭa, included in the kingdom of Mahipāla, by a merchant, Lōkadatta, son of Vasudatta and hailing from the village of Bilakindaka, in furtherance of the religious merit of himself and parents. Bilakindaka is in all probability the village Bilakēnduāi, situated close to Bāghaurā.

The importance of the inscription is twofold. First, it definitely settles the position of the kingdom of Samataṭa. There is no room for doubt now that the village of Bilakēnduāi must have been inside the kingdom of Samataṭa. Now let us recall what Yuan-Chwang says about Samataṭa. The pilgrim came to the country of Samataṭa going 1,200 or 1,300 *li* south of Kāmarūpa. Taking 5 *li* to 1 mile, 1,200-1,300 *li* represent about 250 miles. The country of Samataṭa was about 3,000 *li* (i.e. 600 miles) in circuit and bordered on the great sea. The land lay low and was regularly cultivated. Now, if we look round for the country which must satisfy all these conditions and at the same time must include the Brāhmanbāriā Sub-division of the Tippera district, in which the village of Bilakēnduāi is situated, and if we remember that natural barriers such as mountains and rivers marked off one kingdom from another in those days, we cannot but accept the plain tract of land bounded by the Garo and the Khasi Hills and the hills of Tippera on the north and east, by the Lauhitya, or the old Brahmaputra river, on the west, and by the Bay of Bengal on the south as the ancient kingdom of Samataṭa. It is a perfectly natural geographical unit with neatly marked boundaries, comprising the eastern half of the present Mymensingh and Dacca districts lying east of the Brahmaputra, the greater part of Sylhet, and the whole of the Tippera and Noakhali districts. The distances between countries recorded by Yuan-Chwang are, in all reasonable probability, distances between the capital towns; and the distance of 250 miles recorded by Yuan-Chwang between Kāmarūpa and Samataṭa is pretty accurately the distance between Gauhati and Comillā by any modern route. The circuit of 600 miles is also right and the tract, which is a vast plain, borders on the great sea.

<sup>1</sup> I am of opinion that Baḍkāmtā, 12 miles west of modern Comillā, was the ancient capital of Samataṭa. Vide my paper "A forgotten kingdom of East Bengal," *J. A. S. B.*, March 1914.

There has been much discussion about the situation of the countries of *Shi-li-ch'a-ta-lo* *Kia-mo-lang-kia*, etc., mentioned by Yuan-Chwang in his account of the kingdom of Samatāṭa ; but no satisfactory solution seems to have been arrived at. With our present identification of Samatāṭa we may proceed to consider their cases also. This is what we find in Beal's edition about them :—

" Going *north-east* from this to the borders of the ocean, we come to the kingdom of Śrikshetra (*Shi-li-ch'a-ta-lo*). Farther on to the *south-east* on the borders of the ocean, we come to the country of Kamalaṅka (*Kia-mo-lang-kia*). Still to the east is the kingdom of Dvārāpati (*To-lo-po-ti*). Still to the east is the country of Ishanapura (*I-shang-na-pu-lo*). These six countries are so hemmed in by mountains and rivers that they are inaccessible."

Now, the pilgrim says that the country of *Shi-li-ch'a-ta-lo* might be reached by proceeding *north-east* to the borders of the ocean. This anomalous statement seems to have puzzled everybody, including Beal and Watters, as the borders of the ocean are never reached by going *north-east* from Samatāṭa, wherever its position might have been in eastern India, and the fact that all the original copies of the Travels available, as well as the biography of the pilgrim, give *north-east* as the direction, has stood in the way of emending the text to *south-east*. My studied opinion is that in spite of the unanimity of all the versions, *north-east* is a manifest mistake for *south-east* and the apparent unanimity arises from the mistake having originated in a very early copy of the 'Records.' The very qualifying phrase that the direction would lead to the borders of the ocean is sufficient for the emendation. But the emendation is confirmed by the manner in which the succeeding sentences begin. The next sentence begins thus,—"*Farther on to the south-east, etc.*" and this would lose all force if "*south-east*" had not been the direction spoken of in the previous sentence. If we accept *south-east* and move from Comillā in that direction to the borders of the ocean, we arrive at a place called at present Chittagong (Eng. Chittagong), which was anciently called Śrī-Chattala, a name still frequently used. Is there any reasonable objection to identifying Yuan-Chwang's *Shi-li-ch'a-ta-lo* with Śrī-Chattala of the present times ? It is evident that it satisfies all conditions.

The second importance of the inscription lies in the fact that it throws some light on an obscure part of the history of the Pāla kings of Bengal. The Bangarh plate of Mahipāla I<sup>1</sup> and the Dinājpur pillar inscription<sup>2</sup> inform us that some usurpers drove Vīgrahapāla from the throne and that he, after losing his kingdom, took shelter in the eastern country where water abounds (*dēśē prāchi prachurapayasi*). His heroic son Mahipāla recovered the lost kingdom of his father. The two characteristics, water-abounding and eastern, agree well with the present districts which composed the ancient kingdom of Samatāṭa,—so well that it is impossible to suggest any other country which answers equally to the description ; and little room is left for doubt that the eastern country alluded to was the kingdom of Samatāṭa. The new Bāghāurā image inscription, which is the earliest of the reign of Mahipāla, finally settles all doubts on the point. When we find that Samatāṭa was under Mahipāla so early as in the third year of his reign, we cannot but conclude that it was Samatāṭa where Vīgrahapāla took shelter, suffering reverses in war with the usurper, and leaving north Bengal in the hands of the victor. The fact of the earliest inscription of Mahipāla turning up in Samatāṭa points to his having probably been crowned there and this was perhaps the loyal country used by him as the base of operations in his fight with the usurper for the recovery of his father's kingdom.

The *śloka* in the Bangarh plate which describes Vīgrahapāla's sojourn in the eastern country has been copied also in the Āmgāchhi plate<sup>3</sup> of his great-grandson Vīgrahapāla III, where,

<sup>1</sup> J. A. S. B., Vol. LXI, pp. 77-87 and *Gauḍulēkhamālā*, p. 91. Also *Ep. Ind.*, Vol. XIV, page 224.

<sup>2</sup> J. A. S. B., 1911, p. 615.

<sup>3</sup> *Ind an Antiquary*, Vol. XXI, pp. 97-101.

curiously, it is applied to him. Mr. R. D. Banerji, M.A., in his Monograph on the Pālas of Bengal,<sup>1</sup> is inclined to discredit the statements of the *śloka* on this ground. When a *śloka* describing some events in the history of a monarch, occurring in a copper-plate of his son, is reproduced in a copper-plate of the great-grandson of that monarch and is applied to that great-grandson, it is presumable that the former application is correct, and the latter plate is (i) either a forgery or (ii) the composition of a very silly panegyrist, who was unaware of the historical significance of the *śloka* and took it only as an attempt at conventional panegyrics, or (iii) the repetition denotes some similar event in the life of the latter monarch.

The inscription is incised under the lotus-seat of a standing image of Nārāyaṇa (Viṣṇu) about 3' high, between two kneeling figures. It is in a perfect state of preservation and is legible throughout without any difficulty. The lines measure each 6" in length and the characters are  $\frac{3}{4}$ " long. The characters belong to the North-Eastern variety, specifically called the **Kuṭila character**, which gave birth to the Bengali characters of the modern days. The inscription is **dated**; but the date is given in regnal years. It refers itself to the reign of a king called Mahipāla, presumably **Mahipāla I** of the Pāla dynasty of Bengal; Mahipāla II had a very short and troubled reign, terminating in the successful Kaivarta revolt. As the chronology of the Pāla kings of Bengal is still uncertain, it is difficult to give the exact year of the inscription; but it cannot be far removed from **976 A.D.**

The language is **Sanskrit**. In orthography, the only point to note is the absence of the *avagraha* sign in *punyayaśō abhi*<sup>2</sup> (l. 4). No distinctive mark of *virāma* is added to final consonants. There are **numerical figures** for 3, 2 and 7.

#### TEXT.

- 1 [सिद्धिरस्तु]<sup>3</sup> सम्बत् ३ माघदिने २७ श्रीमहोपालदेवराज्ये
- 2 कीर्त्तिरियं नारायणभट्ट[१]रकाख्या समतटे वि(बि)लकीन्द-
- 3 कीयपरमवैष्णवस्य वणिकलोकदत्तस्य वसुदत्तसुत-
- 4 स्य मातापितृोरात्मनश्च पुण्ययशोऽभिहृद्ये<sup>3</sup>

#### TRANSLATION.

May success attend. The year three, the 27th day of Māgha. In Samatāṭa, in the kingdom of Śrī Mahipāla-dēva, this meritorious work, namely (the image of) the lord Nārāyaṇa, is of the merchant Lōkadatta, belonging to (the village of) Bilakindaka—a great devotee of Viṣṇu—son of Vasudatta, for the furtherance of the spiritual merit and fame of himself and parents.

### 3. THE KEOĀR VIṢṆU IMAGE INSCRIPTION.

The inscription was discovered by myself in 1909. That year, in the month of June, I happened to be on a visit to the little village of Keoār, some three miles to the south-east of Rāmpāl, the famous site of the ancient capital of the Sēna kings of Bengal, in the Munshiganj Sub-division of the Dacca district. I found the image lying on its face, half buried in earth, and on turning it for inspection, I noticed the inscription. The image has now been fixed against the outside wall of the *maṭh* in the same village.

The inscription is incised on the pedestal of an image of Viṣṇu, about 3' in height. It is in four lines, each line measuring 7"; but the last line is an inch shorter, for want of plane space to write upon. The letters are about  $\frac{1}{2}$ " in height and are everywhere boldly incised.

<sup>1</sup> *Memoirs, A. S. B.*, Vol. V, No. 3.

<sup>2</sup> Expressed by a symbol.

<sup>3</sup> Read यशोऽभिहृद्ये.

The second couplet has been much injured towards the end by the erosion of the stone, and the several letters could with difficulty be recognized.<sup>1</sup>

The inscription is in verse throughout, and consists of two couplets. The language is correct Sanskrit, with only a single exception, which is perhaps an engraver's mistake. The letters belong to the Kuṭila variety, current in Bengal in the 10th, 11th, and 12th centuries. The inscription is not dated; but paleographical considerations would not possibly allow of an earlier date than the early part of the 13th century A.D. It records the installation of an image of the lord Viṣṇu by one Vaṅgōka, great-grandson of Śaurīśarman, grandson of Pitāmaḥa and the offspring of the couple Sayōga and Anūyamī.

The absence of a royal name in a pretty long inscription is rather remarkable, though by no means uncommon. It may suggest that the inscription belongs to a period when there was no king worth the name to refer to at the time of the installation of the image. There is another fact which confirms this supposition. The Brāhmaṇa family to which Vaṅgōka belonged is spoken of as hailing from some place in Varēndrī, i.e. north Bengal. They must have migrated to Vaṅga, which included the *pargana* of Vikramapura, the region where the image was found, not long before the installation of the statue, as the fact of their descent from a stock of Varēndrī was, in Vaṅgōka's estimation, still of sufficient distinction to merit a special mention. The name Vaṅgōka is also significant. In a family where the first three of the line are named in pure Sanskrit after the sacred names of gods, the naming of the fourth member after the name of a country signifies that he was born just after the family had migrated into that country, and the migration was an important event in the family history.

The period at the end of the 12th century A.D. which necessitated the migration of Varēndrī Brāhmaṇas from north to east Bengal must have been the time when Lakshmaṇasēna was worsted by Muhammad-bin-Bakhtyar, about 1200 A.D., and the old king and his court fled to Vikramapura. Muhammad established his court at Deb-kot, 14 miles south of Dinajpur, in the heart of Varēndrī, and orthodox Brāhmaṇas must have had a rather hot time of it, necessitating flight to the Vaṅga country, where the Sēnas still had sway. The history of the reign of the sons of Lakshmaṇasēna is very imperfectly known; but erasures of royal names on their copper-plates suggest fratricidal war and consequent anarchy, and the present inscription may well belong to this troublous period.

#### TEXT.

- 1 [सिद्धिरस्तु]<sup>2</sup> अयमानुयमेयेन सयोगाङ्गभुवा विभुः [I]
- 2 वङ्गोक्तेन कृतो विष्णुर्विष्णुसालोक्यकाम्यया [II]
- 3 वरेन्द्रीतटकीयेन शाण्डिल्यकुलजन्मना [I] पिताम-
- 4 हस्य पीत्रेण प्रणमा श्रीरिशर्माणः ॥

#### TRANSLATION.

ay success attend! Longing for a residence in the heaven of Viṣṇu, this (image of) the Lord Viṣṇu was consecrated by Vaṅgōka, hailing from [the village of] Tapaḥa in Varēndrī, offspring of the body of Sayōga and (begotten on) Anūyamī, in the race of (the Saint) Śāṇḍilya, grandson of Pitāmaḥa and great-grandson of Śaurīśarman.

<sup>1</sup> I should put it on record here that the assistance of my friend Prof. Rādhāgōvinda Bāṣk, M.A., was of very great use to me in obtaining a correct decipherment and interpretation of the inscription.

<sup>2</sup> Expressed by a symbol.

# Some Image Inscriptions from East Bengal.

I. The Bharella Nartesvara Image Inscription of the reign of Layahachandra : the 18th year.



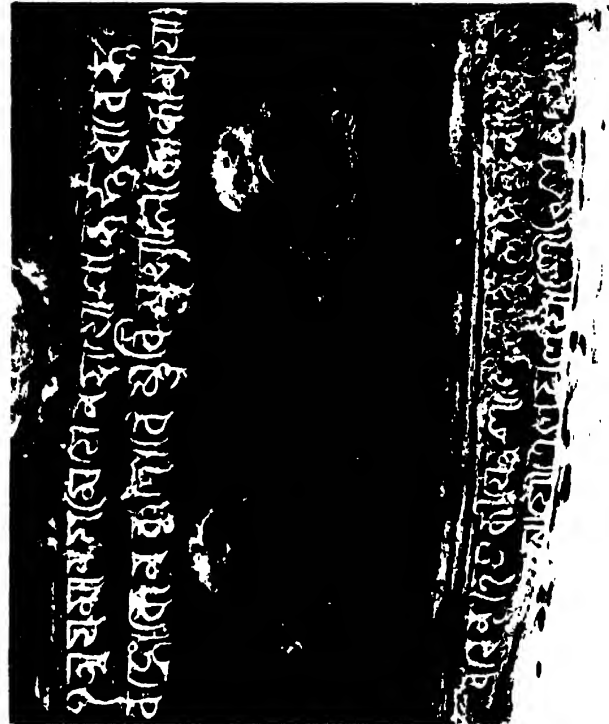
SCALE ONE-HALF

II. The Baghaura Narayana Image Inscription of the reign of Mahi-Pala I : the 3rd year.



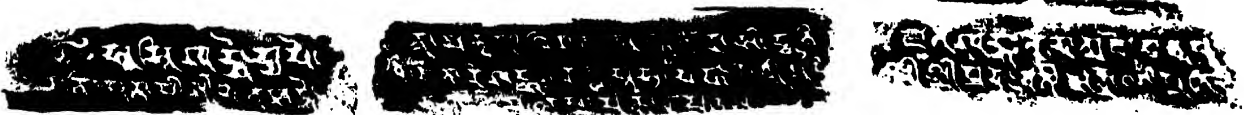
SCALE TWO-THIRDS

III. The Kewar Vishnu Image Inscription.



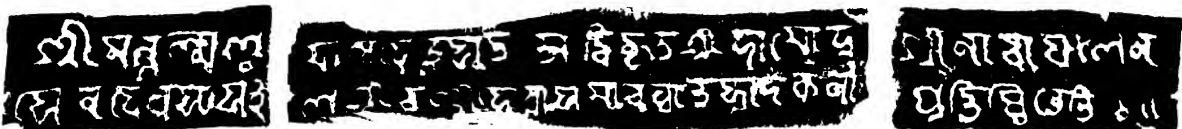
SCALE ONE-HALF

IV. The Deulbadi Sarvani Image Inscription of Mahadevi Prabhavati, Queen of Deva-Khadga.



SCALE FOUR-FIFTHS

V. The Dacca Chandi Image Inscription of Lakshmana-Sena : the 3rd year.



SCALE TWO-THIRDS



#### 4. THE DEULBĀDĪ ŚARVVĀNĪ IMAGE INSCRIPTION OF MAHĀDĒVĪ PRABHĀVATĪ, QUEEN OF DĒVA-KHAḌGA.

Deulbāḍi is a village situated about 14 miles south of Comillā, on the trunk road running from Comillā to Chittagong. The image with which we are dealing was found about two decades ago by one Muhammad Faqir Choudhury, when demolishing the ruins of an ancient structure standing on plot No. 447 of the Settlement Map of Jāmmurā, a *mauza* in which the small village of Deulbāḍi is included, under Police Station Chaudhagrāma, in the Tippera district. A fine brass statuette of the sun-god, in which the god is represented sitting inside his one-wheeled car, drawn by seven spirited horses, as well as some brass *liṅgas*, of which one was inscribed with a short votive inscription,<sup>1</sup> were discovered along with the image of Śarvvānī. Babu Taranath Chakrabartī, the then Sub-Inspector of Police in charge of the Chaudhagrāma Police Station, secured the images and placed them with one Kailās Chandra Chakrabartī of Deulbāḍi. There the images remained for about sixteen years, until they were bought by Babu Saratchandra Chakrabartī and Babu Nibāran Chandra Chakrabartī of the village Dājdi, Police Station Chāndpur, District Tippera. These two brothers are the priests of a temple on the Chāḍimurā peak of the Lālmāi Hills in the district of Tippera, near the Lālmāi Station on the Assam Bengal Railway. As the image installed in the temple of Chāḍi had long disappeared, these two brothers were anxious to get an image of Chāḍi for their temple, and they obtained the present image from a cousin of Kailās, who in the meantime had died. The image was brought to Comillā along with the other images discovered, and for cleaning they were placed in the care of Babu Maheśa Chandra Bhaṭṭāchāryya, a well-known Homoeopathic druggist. When the images were with Maheśa Babu, the inscriptions on the Śarvvānī image and on one of the *liṅgas* began to attract attention. Babu Anukūlchandra Roy, Manager, Wards' Estates, Comillā, sent me an imperfect rubbing of the inscription on the image. I at once recognized that this was a new inscription of the Khaḍgas and wrote to Anukūl Babu to that effect. With the help of Mr. F. C. French, C.S.I., I.C.S., late Commissioner of the Dacca Division and President of the Dacca Museum Committee, I opened negotiations for the acquisition of the image for the Dacca Museum and went over to Comillā and obtained rubbings of the inscription and photographs of the image. The owners of the image, after much persuasion by Rai Annadāprasād Sēn Bahādur, the Additional District Magistrate, and Mr. T. Emerson, C.I.E., I.C.S., the then Magistrate of Tippera, consented to part with the image on condition that a duplicate should be made for them and a sum of money given. At this juncture the annual grant received by the Dacca Museum from the Bengal Government was reduced from Rs. 6,000 to Rs. 3,000 and all ideas of acquiring the image had to be abandoned. The image was taken to the temple at Chāḍimurā and set up for worship. I am informed that it has since been stolen from the temple and lost sight of.

The image is of the goddess Śarvvānī, one of the forms of Durgā. It is about 20" in height and rather heavy. A portion of the rim of the top towards the proper left is broken away and lost. The image is cast in low relief. The technique is rather crude, and the pose rigid. The goddess has eight arms, holding on the proper left, from the bottom upwards, the thunderbolt, the bell, the bow and the shield; and on the proper right, from the bottom upwards, the conch-shell, the goad, the sword and the wheel. Two maids are on her two sides, holding fly-whisks. She stands on a lotus-seat on the back of a couchant lion, with a rather well-executed head. The image was gilt all over with thin sheets of gold, the pious work of queen Prabhāvatī, and the original gilding is still intact in places. The white patches in the photograph show where it still clings fast.



The inscription refers itself to the reign of a king called **Dēva-Khaḍga** of the **Khaḍga** line of kings, who ruled over **Samatāṭa**<sup>1</sup> towards the end of the 7th century A.D. The existence of the **Khaḍga** line of kings in east Bengal became known from the discovery in 1884 of two grants of **Dēva-Khaḍga**, evidently the most powerful monarch of the line. These two plates were finally edited by the late Babu Gangamohan Laskar, M.A., in the *Memoirs of the Asiatic Society of Bengal*, Vol. I, No. 6.

The inscription records the names of three generations of the **Khaḍgas**;—**Khaḍgōdyama**, the founder of the line, his son **Jāta-Khaḍga** and his son **Dēva-Khaḍga**. All these names were known from the copper-plate grants of **Dēva-Khaḍga** referred to above, and it has nothing new to tell us in this respect. It informs us that **Prabhāvatī**, queen of **Dēva-Khaḍga**, caused the image of **Śarvvānī** to be covered with gold leaves out of reverence for the goddess. The name of **Prabhāvatī** also was known previously, as she figures in one of the plates of **Dēva-Khaḍga** as a donor of land to a Buddhist monastery. The royal family of **Samatāṭa** seems to have been of a particularly religious turn of mind. Yuan-Chwang states that **Śīlabhadra**, the head of the University of **Nālanda**, came of the royal stock of **Samatāṭa**. We can hardly conceive at this distance of time what an exalted position it must have been. As the head of the greatest centre of Buddhist culture of the time, he must have occupied the position of the dictator of the then Buddhist world. It is probable that he was a **Khaḍga**, and those who kept alive the name of **Khaḍgas** in later times tried in their way to emulate their illustrious predecessor by noble deeds of piety and benevolence. **Dēva-Khaḍga** was a donor of land to Buddhist monasteries, and his wife and son also followed in his footsteps, as appears from his grants. Yuan-Chwang calls the king of **Samatāṭa** a devout Buddhist and **Dēva-Khaḍga** seems very well to merit this appellation. The pious soul of queen **Prabhāvatī** has once again spoken to posterity through the present discovery.

The image reveals a curious state of religious belief prevalent in those days. Queen **Prabhāvatī** and the members of her husband's family were all devout Buddhists; but all the same she did not feel it irreligious in any way to pay reverence to a goddess who must have belonged to the Brahmanical pantheon. Harshavardhana, to whose court Yuan-Chwang came, in a similar manner divided his veneration among the Buddha, the Sun-god and **Śiva**. All these clearly show that we must revise our idea of the Buddhists and Hindus of ancient days as two communities shut up in watertight compartments. They were more like the present-day **Śāktas** and **Vaiṣṇavas** than otherwise.

**Asrafpur**, near the bank of the old and the real **Brahmaputra**, the find-place of the two plates of **Dēva-Khaḍga**, and **Deulbāḍī**, sixty miles south-east, almost at the foot of the hills of **Tippera**, the find-place of the present image, mark respectively the western and eastern limits of **Samatāṭa**, the kingdom of the **Khaḍgas**.

The inscribed surface at the base of the image is about 8" in length, and the characters are approximately  $\frac{1}{2}$ " long. They are bigger in the two extreme sections than in the middle one. They are incised pretty deeply and are in an almost perfect state of preservation.

The characters belong to the Eastern variety of the **Gupta script** current in Bengal towards the end of the 7th and the beginning of the 8th century A.D. Mr. Laskar, at the time of editing the plates of **Dēva-Khaḍga**, assigned them to "the 8th or 9th century A.D.", while Mr. R. D. Banerji in his *Bengali History of Bengal* is, on paleographical grounds<sup>2</sup> inclined to push the date still further forward. I believe, however, that these **Khaḍga** inscriptions cannot be taken farther than the beginning of the 8th century A.D. No one, I believe, can

<sup>1</sup> Vide my paper "A forgotten kingdom of East Bengal," *J. A. S. B.* March 1914.

<sup>2</sup> Vide also Mr. Banerji's Monograph on "The Palas of Bengal." *Memoirs, A. S. B.*, Vol. V, No. 2, p 67.

compare the letters of the present inscription, as well as those of the two plates of Dēva-Khaḍga, with the letters of the Nidhanpur plates of Bhāskaravarman,<sup>1</sup> the Aḥṣad and the Shahpur inscriptions of Āditya-sēna-dēva, the Deobarnark inscription of Jivita-gupta, the Banskhera and Madhuban plates of Harsha, without coming to the conclusion that a span of about a hundred years covers them all. A comparison of the characters of the Khaḍga inscriptions with those of the earliest known inscriptions of the Pāla kings leaves no doubt that the former must be considerably prior to the latter, possibly by about a century.

There is nothing special to note in the orthography, except the doubling of *v* after *r* in Śarvvāpī. The use of only one symbol for *b* and *v* is almost the rule in Eastern Indian inscriptions, as in the modern Bengali language.

The language is correct Sanskrit verse. The inscription is in three lines on three sections; the first two lines run over all the three sections, while the third line is incised only on the middle one.

I edit the inscription from rubbings and photographs in my possession.

#### TEXT.

- 1 [सिद्धिरस्तु]<sup>2</sup> स्वस्ति खड्गोद्यमो नाम नृपाधिराजस्तत्सूनुरासीद्भुवि जातस्वङ्गः [।\*]  
तदात्मजो दानप-
- 2 तिः प्रतापी ओदेवखड्गो विजितारिखङ्गः ।[।\*] राजस्तस्य महादेवो  
महिषो ओप्रभावती [।\*] स(श)र्वाणीप्रतिमां
- 3 भक्त्या हेमलिप्तामकारयत् । \* \*

#### TRANSLATION.

May success attend ! May welfare accrue ! There was an overlord of kings, Khadgōdyama by name. His son (became known) on earth (as) Jāta-Khaḍga. His powerful and benevolent son Dēva-Khaḍga was (like) a sword, a conqueror of all foes. Prabhāvatī, the queen-consort of this king, out of reverence for Śarvvāpī, covered her image with gold.

#### 5. THE DACCA CHANḌĪ IMAGE INSCRIPTION OF THE 3RD YEAR OF LAKSHMAṆA-SĒNA-DĒVA.

The inscription is on the pedestal of an image of Chanḍī, discovered about four decades ago in the ruins of Rāmpāl, the site of Śrī Vikramapura, the capital of the Sēnas referred to in their land grants, in the *pargana* that still goes by the same name, included at present in the Dacca and Faridpur districts. It is at present worshipped in a small temple situated in the Dālbāzār quarter of Dacca on the Farāshganj Road, a little to the east of the Northbrook Hall. The late Babu Baikunṭhanāth Sēn, Deputy-Inspector of Schools, of Sonārang, District Dacca, was an enthusiastic collector of images, quite a crop of which used to turn up every year in the course of casual excavations in and around Rāmpāl. These, on discovery, were usually put under a tree by a roadside to receive the chance worship of the passers-by. Sometimes they were put to altogether unholy uses and sometimes consigned again to neglect and oblivion. It does great credit to Baikuntha Babu that he alone, amidst the general callousness of his countrymen, was alive to the artistic and archaeological merit of these relics of the past, and not a few of them owe their safe preservation to his labour. Many pieces of his collection are, it is gratifying to note, now in the Dacca Museum. This inscribed image of Chanḍī was one of Baikuntha Babu's finds, and he must have presented it to the founder of the temple in which it at present lies.

<sup>1</sup> *Ep. Ind.*, Vol. XII, p. 65.

<sup>2</sup> Expressed by a symbol.

The inscription, however, seems to have aroused little interest at the time of the discovery, and its existence was unknown to the gentry of Dacca. In April 1911 Mr. E. D. Banerji, M.A., of the Archæological Survey, and some friends discovered it, and from that time it has been known to the public.

In August 1911 Mr. Banerji published a reading of this inscription in the *Bhādra*, 1318 (B.S.), number of the *Pratibhā*, the journal of the Dacca Sāhitya Parishat in an article on king Lakshmaṇa-sēna of Bengal. Four months later, in the Pausa number of the same journal, in a long article on the Sēna kings of Bengal, I gave my reading of the inscription. In June 1912 I published the inscription, with a half-tone reproduction of both the inscription and the image, in the *Dacca Review*, in an article on the era of king Lakshmaṇa-sēna. In *J. A. S. B.*, July 1913 Mr. Banerji re-published it in his article on king Lakshmaṇa-sēna. The inscription has thus been published four times; yet it cannot be said that up to this time it has been properly edited. Mr. Banerji's reading in the *J. A. S. B.*, as well as his description of the image, is not free from mistakes.

The image is about 30" high and is a rather fine example of Bengal sculpture of the time of the Sēnas. The goddess has four arms and she stands in a graceful *tribhanga* pose on a full-blown lotus over a couchant lion. Her upper left hand holds a bunch consisting of a half-blown lotus with some buds and leaves. The lower left hand holds an ornamental basket-like thing, either a flower basket or a waterpot. The upper right hand holds an elephant-goad and the lower one is in the *Varada-Mudrā*. Two attendant female figures stand on the two sides of the goddess, and two elephants are pouring water over her from two pitchers. She seems to be a curious mixture of Gaja-Lakshmi and Chāṇḍī and may represent the Śakti of the god Harihara.

The inscription is in an excellent state of preservation. The inscribed surface is about  $9\frac{1}{2}$ " in length, and the characters are approximately  $\frac{1}{8}$ " high. The characters may be called **Bengali characters** of the 12th century A.D. They are not very well executed and are far inferior in execution to those of the Deopara inscription of Vijaya-sēna. They may be compared in style and coarse execution to the Buddha Gayā inscription of Aśokachalla-dēva executed in the 51st *atita-rājya* year of Lakshmaṇa-sēna-dēva (*Epigraphia Indica*, Vol. XII, p. 29). In this connection I may lay stress on a fact which is sometimes forgotten. Printed types have accustomed us to a standard; but in ancient times contemporary inscriptions varied as much in style as handwritings; because the inscriptions were always written with ink or lac on the surfaces to be inscribed and were then engraved by sculptors who were not always literate.

The inscription refers itself to the **third year of the era of king Lakshmaṇa-sēna** of the Sēna dynasty of Bengal. As the era has been proved to have begun in 1119 A.D.,<sup>1</sup> the inscription must have been incised in the year 1121 A.D. It records that *Adhikṛita Dāmōdara*, son of *Māladatta*, began the image of Chāṇḍī in the third year of the era of Lakshmaṇa-sēna and that his relative (younger brother?) *Nārāyaṇa* installed the image in the fourth year. The inscription is in two lines on three sections. I edit it from the original stone. The language is incorrect **Sanskrit**. *Suba* and *adhikṛita*, which should have been in the 3rd case according to grammatical rules, are both used in the 1st case.

#### \* TEXT.

- 1 श्रीमन्नक्षत्र- माखदे(द)त्तसुत अधिष्ठत श्रीदामोदरे- श्रीनारायणेन
- 2 सेनदेवस्य सं ३- ण श्रीचण्डीदेवी समारब्धा तद्गुदकना-प्रतिष्ठितेति ४ ॥

<sup>1</sup> *Indian Antiquary*, Vol. XIX, p. 1.

*Note on the reading.*

The decipherment of this short inscription presents some very serious difficulties. The fourth letter in what I have read as *Māladetta* is very curious. It bears little resemblance to any letter or compound used in the inscriptions of the time. Mr. Banerji has read it as *Mālade-i*; but certainly *ttu* it is not like any *i* hitherto met with in the inscriptions of the period. It has moreover no perpendicular straight stroke to the proper left, distinctive of an *i* of the period. The following additional objections to the reading may be advanced :—

(i) *Māladei* must be a Prākṛit form of *Māla-dēvi*, and it is not easy to understand why a Prākṛit word should be used in a Sanskrit inscription.

(ii) The use of only the mother's name to denote parentage is unusual in a North Indian inscription.

The letter that one would expect here is *va*, reading the name as *Māladēva*; but the letter used does not bear the slightest resemblance to the *va* of the period or any of the *va*'s used in this inscription. Then what is this letter? My reading of the letter as *ttu* is only conjectural, based on the principle of greatest resemblance and possibility and on a surmise which I shall advance presently. [Perhaps we should read *Mālā-khaḍga*.—Ed.]

The second difficulty is about the reading of the name of the donor. Mr. Banerji has read it as *Dāmōdrēṇa*; but *ē* is clearly absent from *dra*. We can read it at best *Dāmōdraṇa*, which is inadmissible. I have read it *Dāmōdarēṇa*, which is admittedly the correct form of the word. It should be noted that the *ā* mark of *nā*, the letter below *dra*, is projected upwards to a considerable distance. I believe the engraver wrote *Dāmōdraṇa* through mistake and attempted to put in *ra* between *da* and *nā*. Want of space stood in his way, and he fared very ill. The projection of *ā* of *nā* should, in my opinion, be taken for the engraver's attempt to make a small *ra*, and the *r* mark of *Dāmōdra* should be taken as the *ē* he tried to make. I have thus read *rē* between *da* and *nā*.

The next difficult word is what I have read as *tad-bhrāḍakanā*. Mr. Banerji read it as *tabhrāḍakana*, which gives no meaning whatever, and which moreover is incorrect, as *na* has a clear *ā* after it. The word must be a qualifying word of *Nārāyaṇēna*, which follows it, and consequently must be in the 3rd case. It is also expected that the word should signify some sort of relationship between the donor and the founder, whose names prove them to have been close relatives. I have therefore read the word as *tad-bhrāḍakanā*, and would translate it as "by his younger brother." The word *bhrāḍakana*, again, is perplexing and new. I can suggest nothing better than that it was an irregular East-Indian compound of the two words *bhrātā* and *kantyaṇ*.

Now, *Dāmōdara* was evidently a high officer of the state, and we may expect to see his younger brother too in a similar position. We know from the Tarpanighi plate of *Lakshmaṇa-sēna*<sup>1</sup> that one *Nārāyaṇa-datta* was his minister of peace and war. Can this *Nārāyaṇa-datta* be the *Nārāyaṇa* of the present inscription? *Māla* is an appellation of *Vishṇu*, and the names *Nārāyaṇa* and *Dāmōdara* are also names of *Vishṇu*. It was evidently a *Vaishṇava* family and the name of the father agrees well with the names of his sons. If our conclusions, which are based on a series of surmises, are right, and if *Nārāyaṇa* of the present inscription can be identified with *Nārāyaṇa-datta*, the minister of peace and war of *Lakshmaṇa-sēna*, we may read the name of *Dāmōdara*'s father as *Māladetta* and emend it to *Māla-datta* by taking the *e* of *de* as an engraver's mistake.

Mr. Banerji read a *visarga* after *iti*, which is inadmissible; it should be read as 4, resembling the modern Bengali symbol for 4. It is not usual to put the two ciphers of a *visarga* in touch with one another as has been done in the present case.

## TRANSLATION.

The year 8 of the era of the illustrious Lakshmaṇa-sēna-dēva. The (image of the) goddess Chaṇḍī was begun by the Superintendent (*Adhikṛita*) Dāmōdara, son of Māladatta and was installed by his younger brother Nārāyaṇa (in the year) 4.

## No. 25.—A NOTE ON THE VAKATAKA INSCRIPTION FROM GANJ.

(No. 4 of Vol. XVII of the *Epigraphia Indica*.)

By K. N. DIXSHIT, M.A., POONA.

The last four paragraphs of the article on 'a Vakataka inscription from Ganj' illegible correction in the light of information available from the Poona plates of the thirteenth year of the Vākāṭaka queen Prabhāvatiguptā (*Ante*. Vol. XV, p. 32 ff.) and another grant of the 19th year of Pravarasēna (II) issued by the same queen Prabhāvatiguptā (*Ind. Ant.* Vol. LIII, page 48). The characters used in the Ganj and Nachna inscriptions are later in date than those of the Poona plates of Prabhāvatiguptā. The Prithvishēṇa of these inscriptions is therefore more likely to be identified with Prithvishēṇa II of the Bālāghāt plates, who was the great-grandson of Prabhāvatiguptā and not with Prithvishēṇa I her father-in-law. On paleographical grounds, Prof. Jouveau-Dubreuil attributes the Nachna inscriptions to the fifth century instead of the 4th and to Prithvishēṇa II, in preference to Prithvishēṇa I (*Ancient History of the Deccan*, page 73). The present epigraph which is almost identical with the Nachna inscriptions, can therefore also be assigned to Prithvishēṇa II who must have lived in or about the last quarter of the 5th or the opening years of the sixth century A.D.

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R. R. No. 7820  
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# INDEX.<sup>1</sup>

A	PAGE	PAGE	
a, medial form of, . . . . .	346	akshapaṭalika, <i>keeper of records</i> , . . . . .	332
abhaya, <i>pose of hand</i> , . . . . .	16	Akshasaraka, <i>vi.</i> , . . . . .	105, 106, 108
abhitvaramāṇaka, <i>office</i> , . . . . .	325	aḷabedai, <i>symbol (Tamil)</i> , used in completing metri- cal quantity, . . . . .	292
Achala-naya, <i>di.</i> , . . . . .	317, 318, 325	Alberuni, <i>historian</i> , . . . . .	352
āchāri (āchārya), <i>an artisan</i> , . . . . .	7n.	Allahabad, <i>vi.</i> , . . . . .	316 n. 2
āchārya (sthānāchārya), . . . . .	120	alphabets :—	
āchārya, <i>title</i> , . . . . .	357	Bengali, . . . . .	180, 350, 355
Achyutapuram, <i>vi.</i> , . . . . .	334 n. 1	box-headed, . . . . .	12
adhikaraṇa . . . . .	347	Dēva-nāgarī, . . . . .	310
adhikṛta, <i>office</i> , . . . . .	360, 362	Grantha, . . . . .	1, 14, 291, 292, 293
adhirāja (ādhirāja), . . . . .	293, 297 n. 2, 305, 339	Gupta, . . . . .	345, 358, 360
Adignimūṇ or Adiyamūṇ, <i>s. a.</i> Adiyaṇ, . . . . .	296	Kanarese (Kannada), . . . . .	7, 117, 121, 194, 202
Ādi-Kārttigai-pachchai, <i>tax</i> , . . . . .	112, 117	Kuṭila, . . . . .	355, 356
Āditya-Sēna-dēva, <i>Sēna k.</i> , . . . . .	359	Nāgarī, . . . . .	312
Adiyaṇ, <i>Koṅgu k.</i> , . . . . .	296	Naudi-Nāgarī, . . . . .	111, 194
āgamas, . . . . .	16	Southern variety and its distinguishing features, . . . . .	12
Agapporai, <i>s. a.</i> Iraiyanār Agapporai, . . . . .	294 n. 3, 297	Tamil, . . . . .	1, 2
Agasti, <i>s. a.</i> Agastya, . . . . .	324, 330	Telugu, . . . . .	111
Agastya, <i>sage</i> , . . . . .	293, 304	Vatṭeḷuttu, . . . . .	291
Agattiyam, <i>Tamil grammar</i> , . . . . .	293 n. 1	Amarada-hōbaḷi, <i>di.</i> , . . . . .	111, 117
agaval, <i>metre (Tamil)</i> , . . . . .	292	Amarapura, <i>vi.</i> , . . . . .	338, 339
Aggijja (Agyārya), <i>m.</i> , . . . . .	330	Anāvasyā, <i>the New Moon tithi</i> , . . . . .	8
Agnikula kshatriyas, . . . . .	192 n.	Ambāsamudram, <i>vi.</i> , . . . . .	298
Āgniśarman, <i>m.</i> , . . . . .	335, 337, 339	Amgāchhi, <i>vi.</i> , . . . . .	354
Agnishtōma, <i>sacrifice</i> , . . . . .	337, 339	amji, <i>symbol for siddhir=astu</i> , . . . . .	352
agrahāra, <i>a Brahman village</i> , . . . . .	204, 334	Amma II, <i>E. Chāḷukya k.</i> , . . . . .	314
agrahārika, <i>the resident of an agrahāra</i> , . . . . .	333	Amōghavarsha I, <i>Rāshtrakūṭa k.</i> , . . . . .	3
āhāra, <i>a territorial division</i> , . . . . .	106, 167	Ampitadēva, <i>m.</i> , . . . . .	193
Ajaipur, <i>vi.</i> , . . . . .	317	Āpaimalai, <i>hill</i> , . . . . .	295, 296
Ajanta, <i>vi.</i> , . . . . .	13	Āpaimalai inscription, . . . . .	292
Ajapura-naya, <i>di.</i> , . . . . .	317, 318, 324	Ānanda-gōtra, <i>family</i> , . . . . .	328, 329, 330
ājñā, <i>executor of a grant</i> , . . . . .	335, 337, 339	Ānanda, <i>sage</i> , . . . . .	328
ājñapti, <i>do.</i> , . . . . .	294, 295, 296, 309, 339 n. 4	āṇatti, <i>s. a.</i> ājñapti, . . . . .	294, 308
Akalāṅkacharita, <i>sur. of the W. Chāḷukya k.</i> Satyaśraya, . . . . .	7, 9	Andhrakas, . . . . .	325
Ākarika, <i>office (P)</i> , . . . . .	120	Ānegondi, <i>vi.</i> , . . . . .	197
akṣasāli, <i>a goldsmith</i> , . . . . .	332	aṅga-[bhōga], . . . . .	117
Akkā-dēvi, <i>sister of the W. Chāḷukya k. Jaya-</i> <i>śimha II</i> , . . . . .	121, 123	Aṅga, <i>co.</i> , . . . . .	116, 343
akṣhamālī, <i>symbol on the hand of the god</i> <i>Brahma-Sāstā</i> , . . . . .	16	aṅgas, <i>the six</i> , . . . . .	204

<sup>1</sup>The figures refer to pages: *n.* after a figure, to footnotes; and *add.* to the additions on pp. vii to xiii. The following other abbreviations are used:—*ch.*—chief; *co.*—country; *di.*—district or division; *do.*—ditto; *dy.*—dynasty; *E.*—Eastern; *f.*—female; *k.*—king; *m.*—male; *mo.*—mountain; *ri.*—river; *s. a.*—same as; *sur.*—surname; *te.*—temple; *vi.*—village or town; *W.*—Western.

	PAGE
Āntukkūra, <i>s. a.</i> Gani-Ātukūra . . . . .	328
Anuśtubh, <i>metre</i> , . . . . .	197, 292, 318
anusvāra, . . . . .	291, 292
anusvara, unnecessary insertion of, . . . . .	194
Anuyamī, <i>f.</i> , . . . . .	356
apaviñchhya, . . . . .	348 n. 6
ape banner, . . . . .	120
Aphad, <i>vi.</i> , . . . . .	359
Arakan, <i>di.</i> , . . . . .	350
Araśibīdi, <i>vi.</i> , . . . . .	121
Archimides, <i>astronomer</i> , . . . . .	124 n.
Arikēsari Asamasamaṇ Māṇavarman (II) <i>Pāṇḍya</i> <i>k.</i> , . . . . .	293
Arikēsari Māṇavarman, <i>s. a.</i> Arikēsari Asamasama- maṇ Māṇavarman (II), . . . . .	297
Arikēsari, <i>sur. of the Pāṇḍya k.</i> Māṇavarman II, 296, 297, 306	
Arikēsari, <i>sur. of Pāṇḍi-pPerumbaṇaikkāraṇ</i> , . . . . .	295
Arivāraṇa, <i>elephant</i> , . . . . .	340 m., 344
ariya-puggalas, the eight, . . . . .	325
Arjuna, <i>epic hero</i> , . . . . .	305, 307, 326
Arsubidda, <i>s. a.</i> Araśibīdi, . . . . .	121, 123
arthāntaranyāsa, <i>figure of speech</i> , . . . . .	326 n. 2
Āryā, <i>metre</i> , . . . . .	292, 318, 340, 342
Ārya, . . . . .	315 n.
Āryabhaṭa, <i>astronomer</i> , . . . . .	17, 24
Ārya-siddhānta, <i>astronomical work</i> , . . . . .	8, 124, 125
Asamañja, Asamañjas, or Asamañjasa, <i>myth.</i> <i>prince</i> , . . . . .	343 & n. 3
Asamasamaṇ, <i>sur. of Maravarman (II)</i> , . . . . .	306
asana, <i>tree</i> , . . . . .	348
aśṭabhogā, <i>the 8 kinds of enjoyment of land</i> , . . . . .	204
aśṭakula, . . . . .	348
aśṭakul-ādhiparaṇa, <i>office</i> , . . . . .	346
aśṭa-muḥi-puruṣa-pudgala, <i>s. a.</i> ariya-puggalas, . . . . .	322
Aśōkachalla-dēva, <i>Sapādalakṣha k.</i> , . . . . .	360
Aśraṭpur, <i>vi.</i> , . . . . .	189, 358
Aśvaghōṣa, <i>author</i> , . . . . .	118
aśvamēdha, <i>horse-sacrifice</i> , . . . . .	118, 337, 339
Aśvavarman, <i>k.</i> , . . . . .	315
Atisāya, <i>horse</i> , . . . . .	340, 344
Attivarman, <i>Ananda k.</i> , . . . . .	337 n. 4
Attivarman (Hastivarman), <i>do.</i> , . . . . .	328, 329
av, expressed by ō, . . . . .	1
Aupachchhandasika, <i>metre</i> , . . . . .	318
avagraha, <i>symbol</i> , . . . . .	180, 318, 324 n. 2

	PAGE
Avanibhājana, <i>sur. of the Pallava k.</i> Mahēndra- varman I, . . . . .	15 n.
Avanichūlāmaṇi Māṇavarman (I), <i>Pāṇḍya k.</i> , . . . . .	298
Avanichūlāmaṇi, <i>sur. of Māṇavarman (I)</i> , . . . . .	306
Avantivarman II, <i>ch.</i> , . . . . .	316 n. 4
āvaraṇa, <i>a shield</i> , . . . . .	343
Āyavēl, <i>k.</i> , . . . . .	294, 295, 296, 297, 307, 308
Āychakabbe, <i>f.</i> , . . . . .	7, 10
āydam, <i>symbol (Tamil)</i> , . . . . .	292
Ayitayārya, <i>m.</i> , . . . . .	204
Ayōdhyā, <i>s. a.</i> Oudh	
Ayōdhyā, <i>vi.</i> , . . . . .	193
āyuktaka, <i>official</i> , . . . . .	109, 346, 347, 348

## B

Baḍkāmtā, <i>vi.</i> , . . . . .	351, 353 n.
Bāghāurā, <i>vi.</i> , . . . . .	353, 354
Bālāghāt, <i>vi.</i> , . . . . .	18, 362
Bālaputra or Bālaputradēva, <i>Sailendra k.</i> , 311, 312, 313, 314, 315, 316, 325, 326	
Balavarman, <i>ch.</i> , . . . . .	311, 316, 326
Balavarman, <i>Kāṛuṣa k.</i> , . . . . .	316 n. 4
Balavarman, <i>Prāgyōtīṣha k.</i> , . . . . .	316 n. 4
Bali, <i>demon k.</i> , . . . . .	1, 6
bali, <i>royal revenue</i> , . . . . .	110, 204 & n
Bāṇa, <i>demon</i> , . . . . .	120
Bāṇa, <i>dy.</i> , . . . . .	1, 2, 3, 6
Bāṇādhirāja, <i>title of the Gaṅga k.</i> Prithvipati II, . . . . .	3
Bāṇavidyādharma, <i>sur. of the Bāṇa k.</i> Vikram- āditya (I), . . . . .	2, 3
Bangarh, <i>vi.</i> , . . . . .	359
Banakhēra, <i>vi.</i> , . . . . .	348 n. 7, 359
Bappūra, <i>family</i> , . . . . .	121
Bārakūru, <i>vi.</i> , . . . . .	196
Bauddha Bhikṣu, . . . . .	15
Benares, <i>vi.</i> , . . . . .	188, 310
Bengal, <i>co.</i> , . . . . .	188, 189
Bezvāḍa, <i>vi.</i> , . . . . .	329
Bhabūnidāsa, <i>poet</i> , . . . . .	351
Bhadāl, <i>vi.</i> , . . . . .	10
Bhaddajja (Bhadrārya), <i>m.</i> , . . . . .	330
Bhadrēpikā, <i>vi.</i> , . . . . .	109
bhāgabhogakara, . . . . .	326

<sup>1</sup> The figures refer to pages: n. after a figure, to footnotes; and *add.* to the additions on pp. vii to xiii. The following other abbreviations are used:—*ch.* = chief; *co.* = country; *di.* = district or division; *do.* = ditto; *dy.* = dynasty; *E.* = Eastern; *f.* = female; *k.* = king; *m.* = male; *mo.* = mountain; *ri.* = river; *s. a.* = same as; *sr.* = surname; *te.* = temple; *vi.* = village or town; *W.* = Western.

	PAGE
Bharata, <i>myth. k.</i> , . . . . .	348
Bhavajja (Bhavārya), <i>m.</i> , . . . . .	380
Bhānuchandra, <i>m.</i> , . . . . .	331, 334
Bhānugupta, <i>Gupta k.</i> , . . . . .	193
Bharata, <i>author</i> , . . . . .	317 n. 3
Bhārellā, <i>vi.</i> , . . . . .	349
Bhāshege-tappuva-rāyara-gaṇḍa, <i>title of Vijaya-nagara king</i> , . . . . .	111
Bhāshya-Bhūshā, <i>work</i> , . . . . .	197, 204
Bhāskarāchārya, <i>astronomer</i> , . . . . .	125
Bhāskaravarman, <i>Kāmarūpa k.</i> , . . . . .	359
bhāṣa, . . . . .	325
Bhaṭṭōji Dikshita, <i>grammarian</i> , . . . . .	291
Bhāvanagar, <i>plates from</i> , . . . . .	109
Bhavāni, <i>s. a. Pārvatī</i> , . . . . .	203
Bhīvu-dēva, <i>ch.</i> , . . . . .	351, 352
Bhāyanārya, <i>m.</i> , . . . . .	204
Bhāyi-Bhaṭṭa, <i>m.</i> , . . . . .	204
bhikṣu, . . . . .	211, 325
Bhīmasēna, <i>epic hero</i> , . . . . .	326
Bhōja, <i>k.</i> , . . . . .	116
Bhrigurace, . . . . .	315 n.
bhū, <i>numerical word for 'one'</i> , . . . . .	203
bhukti, <i>territorial division</i> , . . . . .	316, 317, 318, 346
bhūmichchhidra-nyāya, . . . . .	325
Bhūmināga, <i>Nāga</i> , . . . . .	11, 12
bhūta, . . . . .	108
Bilakēnduāi, <i>vi.</i> , . . . . .	53
Bilakēndaka, <i>s. a.</i> , Bilakēnduāi, . . . . .	353, 355
boar, <i>emblem on seal</i> , . . . . .	194
boar, <i>incarnation of Viṣṇu</i> , . . . . .	194, 202
bōdhidruma, <i>the Pipal-tree</i> , . . . . .	313 n. 2
Bōdhisattva, . . . . .	12, 325
Bōdh Gayā, <i>vt.</i> , . . . . .	113
Borneo, . . . . .	314, 315
bow, ( <i>Chēra</i> ) <i>crest</i> , . . . . .	294, 307
Brahmā, <i>god.</i> , . . . . .	6, 7, 14, 15, 16, 17, 309
brahmādāya, . . . . .	110
brahmadēya, . . . . .	108, 294, 309
Brahma-Gupta, <i>astronomer</i> , . . . . .	123, 124
Brāhmaṇa (Brahman), . . . . .	2, 6, 7, 105, 108, 109, 110, 197, 203, 293, 314, 325, 328, 330, 335, 337, 346, 318
Brāhmanbāriā, <i>vi.</i> , . . . . .	353

	PAGE
Brāhmaṇōttaras, . . . . .	325
Brahmaputra, <i>ri.</i> , . . . . .	353, 358
Brahma-Śāstā, <i>s. a. Subrahmanya</i> , . . . . .	16, 17
Brahma-Siddhānta, <i>astronomical work</i> , . . . . .	123, 124, 125
Brahmēśvara, <i>te.</i> , . . . . .	10
Bṛihach-charaṇa, <i>sect of Brāhmaṇas</i> , . . . . .	112
Bṛihadgriha, <i>s. a. Kārūshā</i> , . . . . .	316 n. 4
British Museum, . . . . .	7, 117, 121, 33
Buddha, . . . . .	189, 311, 325, 328, 327, 332, 358
Buddhacharita, <i>quoted</i> , . . . . .	118
Buddha-Gayā, <i>s. a. Bōdh-Gayā</i> , . . . . .	360
Buddhist, . . . . .	188, 189, 190, 310, 311, 313, 314, 316, 317, 351, 352, 358
Budha, <i>Jupiter</i> , . . . . .	293, 294, 304
Buguda, <i>vi.</i> , . . . . .	331
Building materials, <i>referred to in a Pallava inscription</i> , . . . . .	15, 17
Bukka I, <i>Vijayanagara k.</i> , . . . . .	111, 116, 194, 195, 207
bull, <i>symbol on seal</i> , . . . . .	1, 327

## C

Cambodia, . . . . .	314
Ceylon, . . . . .	313
chakra, <i>the discus of Viṣṇu</i> , . . . . .	2
chakravartin, . . . . .	297 n.
Chalukya, <i>dy.</i> , . . . . .	120, 123
Chalukya, <i>Western, dy.</i> , . . . . .	293 n. 4, 296
Champa, . . . . .	314
Chāṇḍāla, . . . . .	10
Chāṇḍālas, . . . . .	325
Chāṇḍī, <i>image</i> , . . . . .	359, 360, 362
Chāṇḍī Kalasan, <i>te. (?)</i> , . . . . .	314
Chandra, <i>dy.</i> , . . . . .	188, 189, 360
Chandra Gupta II, <i>Gupta Emperor</i> , . . . . .	13 add.
charaṇa, . . . . .	330
charu, . . . . .	110
chāṭa, . . . . .	325
Chārudēvi, <i>Pallava queen</i> , . . . . .	327, 338
Chattagram = Chittagong, . . . . .	354
Chaturbhāṇī, <i>title of a book</i> , . . . . .	317 add.
chaurōddharāṇa, . . . . .	325
chaurōddharāṇika, <i>office</i> , . . . . .	325

The figures refer to pages : n. after a figure, to footnotes ; and add. to the additions on pp. vii to xiii. The following other abbreviations are used :—*ch.*=chief ; *co.*=country ; *di.*=district or division ; *do.*=ditto ; *dy.*=dynasty ; *E.*=Eastern ; *f.*=female ; *k.*=king ; *m.*=male ; *mo.*=mountain ; *ri.*=river ; *s. a.*=same as ; *sur.*=surname ; *te.*=temple ; *vi.*=village or town ; *W.*=Western.



	PAGE
chāvadi, <i>s. a. rājya</i> , . . . . .	111, 117
Chēdi, <i>co.</i> , . . . . .	315 n.
Chēdi, <i>family</i> , . . . . .	315
Chēdiyarāya (Chēdirāja), <i>title of Milādu chiefs</i> , . . . . .	315 n. 1
Chellūr, <i>vi.</i> , . . . . .	335
Chēra, <i>co.</i> , . . . . .	294, 298
Chēra, <i>dy.</i> , . . . . .	307 n. 1, 308, 315 n.
Chēzarla, <i>vi.</i> , . . . . .	329
Chhandōga, <i>s. a. Sāmavedin</i> , . . . . .	346, 348
Chhandōmañjarī, <i>quoted</i> , . . . . .	292 n.
Chhurikā-bhālanētra, <i>title of the Vijayanagara k. Virūpāksha II.</i> , . . . . .	194, 203
Chicacole, <i>vi.</i> , . . . . .	332
Chikkulla, <i>vi.</i> , . . . . .	334, 335, 337 n. 4
Chitukanahālu, <i>vi.</i> , . . . . .	197, 204
Chōla, <i>co.</i> , . . . . .	294
Chōla, <i>dy.</i> , . . . . .	3, 296, 307 & n. 1, 312, 313, 315 n. 1
Chūdūmanivarmman, <i>Śailēndra k.</i> , . . . . .	313
Coinbatore, <i>vi.</i> , . . . . .	296
Coliya, <i>tribe</i> , . . . . .	314
Comilla, <i>vi.</i> , . . . . .	357
Conjeeveram, <i>vi.</i> , . . . . .	196
Consonant groups, assimilation of, in Prākṛit, . . . . .	328
crescent, <i>symbol on seal</i> , . . . . .	334
Cupid, . . . . .	326

## D

Dacca, <i>vi.</i> , . . . . .	359
Dacca Museum, . . . . .	188, 190, 349, 359
Dacca Sahitya Parishad, . . . . .	349
Dadigarasa, <i>Bappūra ch.</i> , . . . . .	121, 123
Dadhikarṇa, <i>Nāga</i> , . . . . .	11
Dalavānūr, the Pallava cave at, . . . . .	14
Dāmajja (Dāmārya) <i>m.</i> , . . . . .	330
Dāmōdara, <i>m.</i> , . . . . .	360, 362
Dāmōdara, <i>s. a. Viṣṇu</i> , . . . . .	361
Dāmōdaravarman, <i>Ananda k.</i> , . . . . .	328, 330, 337 n. 4
Dāmōdarpur, <i>vi.</i> , . . . . .	193, 345, 346, 347 n. 4, 348
Dānakhaṇḍa, <i>work</i> , . . . . .	328 n. 4
Dāndapāśika, <i>office</i> , . . . . .	325
Dāndika, <i>do.</i> , . . . . .	325
dāsūparādha <i>tax</i> , . . . . .	325
Dāsūparādika, <i>office</i> , . . . . .	325

	PAGE
date of the fifth Damodarpur Gupta plate, <i>corrected</i> , . . . . .	193
date of the second Damodarpur Gupta plate, <i>corrected</i> , . . . . .	193
dates expressed by a chronogram, . . . . .	11
dates expressed by numerical symbols, . . . . .	331, 332
dates expressed by numerical words, . . . . .	196, 203
dates expressed in words, . . . . .	331
Dattātṛeya, <i>god</i> , . . . . .	16
days, lunar :—	
bright fortnight—	
1st, . . . . .	111, 117
2nd, . . . . .	120 n.
3rd, . . . . .	110
5th, . . . . .	118, 120
12th, . . . . .	111, 117, 196, 204
13th, . . . . .	330
dark fortnight—	
5th, . . . . .	106, 108
8th, . . . . .	331, 334
14th, . . . . .	120 n. 350, 352
15th or New Moon, . . . . .	121, 123
days, of the week :—	
Monday . . . . .	196
Sunday . . . . .	111, 116 <i>add.</i> , 118, 120, 121, 123
Thursday, . . . . .	8, 350, 352
Wednesday, . . . . .	8, 118
days, solar :—	
21st, . . . . .	311, 326
Deb-kot, <i>vi.</i> , . . . . .	356
deer, <i>emblem on seal</i> , . . . . .	188
Deer Park, <i>s. a. Sārnāth</i> , . . . . .	188
Dēmāmbikā, <i>queen of the Vijayanagara k.</i>	
Dēvarāya I, . . . . .	111, 116, 194, 203
Deobarnark, <i>vi.</i> , . . . . .	359
Deopara, <i>vi.</i> , . . . . .	360
dēśa, <i>s. a. maṇḍala</i> , . . . . .	318
dēśabhāṣā, <i>the vernacular of a province</i> , . . . . .	194
Deulbāḍī, <i>vi.</i> , . . . . .	357, 358
Dēvajja (Dēvārya) <i>m.</i> , . . . . .	330
Dēvakhaḍga, <i>Khaḍga k.</i> , . . . . .	189, 351, 357, 358, 359
Dēvakīrtī, <i>m.</i> , . . . . .	348
Dēvapālādēva, <i>Pāla k.</i> , . . . . .	310, 311, 315, 316
	316 n. 4, 325 & n. 4, 326, 327

<sup>1</sup> The figures refer to pages : *n.* after a figure, to footnotes; and *add.* to the additions on pp. vii to xiii. The following other abbreviations are used :—*ch.* = chief; *co.* = country; *di.* = district or division; *do.* = ditto; *dy.* = dynasty; *E.* = Eastern; *f.* = female; *k.* = king; *m.* = male; *mo.* = mountain; *vi.* = river; *s. a.* = same as; *sur.* = surname; *te.* = temple; *vi.* = village or town; *W.* = Western.

	PAGE
Dēvarāya-mahārāya s. a. Dēvarāya II, . . .	117
Dēvarāya I, <i>Vijayanagara k.</i> , . . .	208
Dēvarāya II, <i>do.</i> , . . . 110, 111, 116, 196, 196	
Dēvarāya (=Pratāpa-D°), <i>Vijayanagara prince</i> , . . .	195
Dēvaśarman, <i>m.</i> , . . .	348
Dēvavarman, s. a. Vijaya-Dēvavarman, . . .	327
Dēvavarman, <i>Viśṇukunḍin k.</i> , . . .	388, 389
Dēvōndravarmān, <i>E. Gaṅga k.</i> , . . .	332
<i>dh</i> , doubled before <i>y</i> , . . .	12
<i>dh</i> , replaced by <i>th</i> , . . .	1
Dhanaidaha, <i>vi.</i> , . . .	345, 346
Dhārāpuram, <i>vi.</i> , . . .	298 n. 1
Dharaṇi (Earth), . . .	118, 120
Dharaṇidra, <i>Earthly Indra</i> , . . .	312
dharma (law), one of the three jewels of Buddhist faith, . . .	190, 191
dharṇachakra, emblem on seal . . .	310
dharmanōtri, . . .	325 n. 3
Dharmapāla, <i>Gauḍa k.</i> , . . .	846
Dharmapāla or Dharmapāladēva, <i>Pāla k.</i> , . . .	311, 316, 317
Dharmapuri, <i>vi.</i> , . . .	296
Dharmarāja Ratha, . . .	16
Dharma-ratna, . . .	311, 325
Dharmasētu, <i>k.</i> , . . .	311, 315, 316
Dharma (Varma) sētu, <i>k.</i> , . . .	326 & n. 5
Dhārwar, <i>vi.</i> , . . .	117
Dhātṛi, s. a. Brahman, . . .	309
Dhīrataran, title of Mūrti Eyaṇ, . . .	296
dhivalōka, <i>chronogram</i> , . . .	111, 116
Dhruvasēna (I), <i>Valabhi k.</i> , . . . 105, 106, 107 n., 108, 109 and add., 110	
dhruvasthānādhikarāṇika (dhruvādhikarāṇika), office, . . .	107, 109
Dhūrtaviśaśarvāda, <i>work</i> , . . .	317 add.
Dighanikāya, <i>Pāli work</i> , . . .	317
Dinājpur, <i>vi.</i> , . . .	354, 356
Diṇḍika, s. a. (?) Prithvipati II, . . .	3 n.
Dipāvali or Dīwāli, <i>festival</i> , . . .	120 n.
divālichara-dhavalam, . . .	120 n.
<i>dm</i> replaced by <i>tm</i> , . . .	1
<i>dma</i> for <i>lma</i> , . . .	291
Dōṇajja (Drōṇārya), <i>m.</i> , . . .	830
Drākshūrāya, <i>vi.</i> , . . .	335
drāṅgika, . . .	109
Dravidian, . . .	328

	PAGE
drōṇa, <i>land measure</i> , . . .	189
Durgā, <i>goddess</i> , . . .	357
Durgā-Bhaṭṭa, son of Mādhavārādhyā, <i>m.</i> , . . . 197 and add., 204	
Durga-Bhaṭṭa, son of Vallam-Bhaṭṭa, <i>m.</i> , . . .	204
dūtaka office . 105, 108, 109 and add., 110, 313, 316	
dūtapraishanika, <i>do.</i> , . . .	325
Dvaipāyana, s. a. Vyāsa, . . .	318
dvārapālaka, <i>image</i> , . . .	14

## E

eclipse, solar, . . .	8, 10, 12, 123
elephant, associated with the temple of Śāstā, . . .	16 n.
Elliot Collection, . . .	7
Enādi, <i>m.</i> , . . .	294
Enādi, <i>sur. of Śāttan Śāttan</i> , . . .	309
Eranigereyahalli, <i>vi.</i> , . . .	118, 120
Eras:—	
Chālnkya-Vikrama, . . .	118, 120
Gaṅga or Gāṅgēya, . . .	331
Gupta, . . .	193, 345, 346
Kushāna, . . .	10, 11, 12
Lakshmana-sēna, . . .	360, 362
Śaka, . . . 2n., 3, 7, 8, 10, 110, 111, 116, 117, 121, 123, 195, 196, 197, 203, 311, 312	
Śalivāhana (s. a. Śaka), . . .	203
Valabhi or Gupta-Valabhi, . . . 105, 106, 107 n., 110	
[Vikrama], <i>Samvat</i> , . . .	11, 326
Eyaṇ, title, . . .	296

## F

Fa-Hien, . . .	314
Faridpur, <i>vi.</i> , . . .	345, 348 n. 6
śaḥ, pair of, <i>Pāṇḍya crest</i> , . . .	298, 294, 304

## G

Gaja-Lakshmi, <i>goddess</i> , . . .	360
gajavēṭṭai-kaṇḍaruliya, epithet of Pratāpa-Dēvarāya, . . .	195, 196
gaja-vēṭṭai, shortened form of gajavēṭṭai-kaṇḍaruliya, . . .	196
Gaṇagamika, office, . . .	325
Gāṇada Hājūr, <i>vi.</i> , . . .	121, 123
Gaṇādhipati (Gaṇapati), <i>god</i> , . . .	202
Gaṇapati, <i>god</i> , . . .	194
Gaṇēsa, s. a. Gaṇapati, . . .	3

<sup>1</sup> The figures refer to pages: n. after a figure, to footnotes; and add. to the additions on pp. vii to xiii. The following other abbreviations are used:—*ch.*=chief; *co.*=country; *di.*=district or division; *do.*=ditto; *dy.*=dynasty; *E.*=Eastern; *f.*=female; *k.*=king; *m.*=male; *mo.*=mountain; *ri.*=river; *s. a.*=same as; *sur.*=surname; *te.*=temple; *vi.*=village or town; *W.*=Western.

	PAGE
Gaṇeśgaḍ, vi., . . . . .	106
Gaṅga, co., . . . . .	296
Gaṅga dy., . . . . .	295, 297, 332
Gaṅgā (Ganges), ri., . . . . .	119, 122, 123
Gaṅgarāja, k. of the Gaṅgas . . . . .	294, 297, 307, 309
Gaṅgavāḍi 96,000, di., . . . . .	296
Gaṅga, W. dy., . . . . .	3, 296
Gaṇi-Ātukūra, vi., . . . . .	328
Ganges, ri., . . . . .	327
Gaṇj, vi., . . . . .	12, 18 add., 362
Gaṇuduhai, s. a. Gāṇaḍa Hāḷūr, . . . . .	121
Garo, hill, . . . . .	353
Gauḍa, co., . . . . .	311, 348
Gauḍalēkhamālā, quoted, . . . . .	351 n. 1
Gaulmika, office . . . . .	325
Gaurāmbikā, queen of the Vijayanagara k. Bukka I, . . . . .	111, 116
Gautama Buddha, s. a. Buddha, . . . . .	310
Gayā, vi., . . . . .	317
Gayā-vishaya, di., . . . . .	311, 318, 325
Geṇṇayya, m., . . . . .	10
Ghaṇādri-rājya, di., . . . . .	208
Ghaṇādri, s. a. Penugonda, . . . . .	194, 195
gazelle, emblem on seal, . . . . .	310
Ghōṣhaṇa, tank, . . . . .	334
Ghugrahī ti, vi., . . . . .	318 n. 2
gi, abbreviation of gimha (grīṣhma), . . . . .	335
gimhā or giṇha (grīṣhma), season, . . . . .	337 n. 7
Giritra, s. a. Siva, . . . . .	6
Giti, metre, . . . . .	14, 341, 342
Gōghū, vi., . . . . .	106
Gōkāge, s. a. Gōkāk, . . . . .	121, 123
Gōkāk, vi., . . . . .	121
Gonada-beḍaṅgi (guṇada-beḍaṅgiyar), title of Akkādēvi, . . . . .	121, 122, 123
Gonandija, m., . . . . .	328 n. 2
Gōpāla, m., . . . . .	348
Gōraṇṭla, vi., . . . . .	328, 329, 337 n. 4
Gōsahasra, one of the 16 mahādānas, 111, 117, 307, 328	
Gōshthaka, m., . . . . .	348
gōtra, family, . . . . .	330
Gōtras :—	
Agastya, . . . . .	330
Ātrēya, . . . . .	109, 203, 204
Bhāradvāja, . . . . .	204
Harita, . . . . .	204

	PAGE
Gōtras :—contd.	
Kaśyapa, . . . . .	330
Kaundinya, . . . . .	330
Srivata, . . . . .	204
Sunaka, . . . . .	105, 108
Vasishtha, . . . . .	204
Vatsa, . . . . .	330, 334, 337
Vrajaṇa, . . . . .	110
Gōvinda-Chandra, Chandra k., . . . . .	350, 351
Gōvindavarman, Viśṇukunḍin k., . . . . .	335, 337, 338
Greeks, . . . . .	124
Guddādi-vishaya, di., . . . . .	335 & add., 337
Guddavādi-vishaya, di., . . . . .	335
Guḍimallam, vi., . . . . .	1, 2, 3
guṇa, numerical word for 'three' . . . . .	203
Guṇabharā, sur. of the Pallava k. Mahēndra-varman I, . . . . .	15 n.
Guṇṭūr, vi., . . . . .	328, 329
Gupta, dy., . . . . .	13 and add., 193, 313, 317, 352

## H

Hagaratago, Hagaritago, Hagaritige, Hagaratṭa-gi, Hagaritṭage, Hagaritṭige, Hagaritṭigi or Hagalitṭage, vi., . . . . .	8
Hagari, ri., . . . . .	197, 204
hala, land measure, . . . . .	333
Hampaṇārya, m., . . . . .	204
Hampe or Hampi, vi., . . . . .	112, 197
Hara, s. a. Siva, . . . . .	120, 305, 327
Haraba, vi., . . . . .	193
Harihara, god, . . . . .	360
Hari-Hara-Pitāmaha, s. a. Dattātrēya . . . . .	16
Harihara (I), Vijayanagara k., . . . . .	111, 116
Harihara (II), do., . . . . .	194, 203
Hariṇi, metre, . . . . .	318
harivāṇa of food, . . . . .	111 add., 117
Haraba, Kanauj k., . . . . .	348 n. 7
Harsha, s. a. Harshavardhana, . . . . .	359
Harshavardhana, Kanauj k., . . . . .	358
Hastavapra-haraṇi, di., . . . . .	105, 106, 108
Hastavapra, s. a. Hāthab, . . . . .	106
Hasti or Hastigrāma, vi., . . . . .	311, 317, 324, 325
Hastimallu, sur. of Prithvipati II, . . . . .	3
Hastināvati, s. a. Ānegondi, . . . . .	197
Hastināvati-vaḷita, di., . . . . .	197, 204
Hastivarman, E. Gaṅga k., . . . . .	333

<sup>1</sup> The figures refer to pages: n. after a figure, to footnotes, and add. to the additions on pp. vii to xiii. The following other abbreviations are used:—*ch.*=chief; *co.*=country; *di.*=district or division; *do.*=ditto; *dy.*=dynasty; *E.*=Eastern; *f.*=female; *k.*=king; *m.*=male; *mo.*=mountain; *ri.*=river; *s. a.*=same as; *sur.*=surname; *te.*=temple; *vi.*=village or town; *W.*=Western.



	PAGE
kalūyam, <i>tax</i> , . . . . .	112, 117
Kali age, . . . . .	6, 203, 307, 308
Kālidāsa, <i>poet</i> , . . . . .	203 n. 1
Kalidāsa-vāmin, <i>te.</i> , . . . . .	120
Kalikāl, <i>vi.</i> , . . . . .	349 n. 1
Kaliṅga, <i>co.</i> , . . . . .	116, 314
Kalippagai, <i>sur. of</i> Neḍuñjaḍaiyaṇ, . . . . .	307
Kali, <i>race</i> (?), . . . . .	293, 306
Kalkere, <i>vi.</i> , . . . . .	8, 10
Kalpa, . . . . .	293, 294, 304
Kāmadēva, <i>god</i> , . . . . .	324 n. 1, 326
Kāmakkaṇi-Narchiṅgaṇ, <i>m.</i> , . . . . .	308
Kāmakkaṇi Śuvaraṇ-Siṅgaṇ, <i>s. a.</i> Kāmakkaṇi Narchiṅgaṇ . . . . .	294, 309
kamaṇḍalu, <i>symbol of the image</i> Brahma-Sāstā, . . . . .	16
Kāmarūpa (Assam), <i>co.</i> , . . . . .	353
Kāmasūtra, <i>work</i> , . . . . .	317 n. 4
Kāmikāgama, <i>work</i> , . . . . .	297 n. 2
kamma, <i>land measure</i> , . . . . .	120
Kanaṇḍ, <i>vi.</i> , . . . . .	316 n. 4
Kandara, <i>Ananda k.</i> , . . . . .	328, 329
Kandarapura, <i>vi.</i> , . . . . .	328, 330
Kaudarpa (Cupid), . . . . .	304
Kaṅgūra, <i>vi.</i> , . . . . .	328, 330
kāṇikkai, <i>a nazar</i> , . . . . .	112
Kāṇikkha, <i>s. a.</i> Kānishka, . . . . .	11
Kāniehka, <i>Kushāṇa k.</i> , . . . . .	11
Kāntāra, <i>s. a.</i> Puṇḍra, . . . . .	316 n. 2
Kāpālika, . . . . .	15
Kappaḍi tank, . . . . .	121, 123
kārūmai, . . . . .	308
Karavandapuram, <i>s. a.</i> Kaḷakkāḍ, . . . . .	294, 295, 297, 298, 309
Kariyakere, <i>tank</i> , . . . . .	197, 204
Karḷe, <i>vi.</i> , . . . . .	337, n. 7, 339 n. 5
Karṇa-Brahma-paṭha . . . . .	203
Kārmānta, <i>vi.</i> , . . . . .	351, 353
Karṇa, <i>epic hero</i> , . . . . .	326, 343
karnapūra, <i>an ear-ornament</i> , . . . . .	343
Karṇāṭa, <i>co.</i> , . . . . .	194, 195, 203
Karṇāṭa, <i>race</i> , . . . . .	295, 325
Karṇāṭaka, <i>s. a.</i> Chāḷukya W., . . . . .	293 n. 4
Karṇāṭakaṇ, <i>s. a.</i> Maḍura-Karṇāṭakaṇ, . . . . .	307
Karūr, <i>vi.</i> , . . . . .	298, 307
Karūsha, <i>co.</i> , . . . . .	316 n. 4
Kassava, <i>s. a.</i> Kāśyapa . . . . .	328, 330

	PAGE
Kaṭāha, <i>co.</i> , . . . . .	313
kuṭaka, <i>a camp or capital</i> , . . . . .	348
Kaṭhāsaritsāgara, <i>work</i> , . . . . .	312
Kāṭhiāwāḍ (Kathiawar), <i>co.</i> , . . . . .	109, 110, 316 n. 4
kaṭṭige-avasara, <i>tax</i> , . . . . .	112 and <i>add.</i> , 117
kaṇatubha jewel, . . . . .	116
Kāvēri, <i>ri.</i> , . . . . .	111, 112, 117 and <i>add.</i> , 294, 295, 308
Kavi, <i>title of</i> Maṅgalarāja, . . . . .	309
Kavi, <i>title of</i> Māraṅgārī, . . . . .	295
Kāviri, <i>s. a.</i> Kāvēri, . . . . .	294, 296, 307
Kāvya (Venus), <i>planet</i> , . . . . .	343
Kādārpur, <i>vi.</i> , . . . . .	188, 189
Kādār Rāy, <i>ch.</i> , . . . . .	188
kēlvi, <i>office</i> , . . . . .	293 n. 2
kēlvi-andaṇḍālar (kēlvi-Brahmapas), . . . . .	293 & n. 2, 305, 308
Keoṣr, <i>vi.</i> , . . . . .	355
Kūraḷa, <i>co.</i> , . . . . .	293, 296, 297, 306
Kētōja, <i>m.</i> , . . . . .	123
k, form of, . . . . .	12
Khādā (tā?) pāra-vishaya, <i>di.</i> , . . . . .	346, 348
Khādga, <i>family</i> , . . . . .	351, 357, 358, 359
Khādggōdyama, <i>Khādga k.</i> , . . . . .	358, 359
Khālimpur, <i>vi.</i> , . . . . .	316, 317, 346
Khandajja (Skandārya), <i>m.</i> , . . . . .	330
khaṇḍaraksha, <i>office</i> , . . . . .	325
Khāravēla, <i>Kaliṅga k.</i> , . . . . .	295
Khariar, <i>vi.</i> , . . . . .	106 and <i>add.</i>
khāri, <i>land measure</i> , . . . . .	197, 204
Khāsaka, <i>m.</i> , . . . . .	348
Khasas, <i>people</i> , . . . . .	325
Khasi, <i>hill</i> , . . . . .	353
Kia-mo-lang-kia (Kamalaṅka), <i>co.</i> , . . . . .	354
Kikkaka, <i>m.</i> , . . . . .	106, 108, 109 and <i>add.</i> , 110
kinṇara, . . . . .	307
Kīrtivarman II, <i>Western Chalukya k.</i> , . . . . .	296
kiśōra-vaḍavā-gō-mahishyadbikṛita, <i>office</i> , . . . . .	325
Kisukāḍṇ Seventy, <i>di.</i> , . . . . .	121, 123
Kūṅg or Kēliṅg, <i>s. a.</i> Kaliṅga, . . . . .	314
Klurak, . . . . .	312
Koḍumbāḷūr, <i>vi.</i> , . . . . .	294, 297, 298, 307
Koḍumudī or Pāḍikkōḍumudī, <i>vi.</i> , . . . . .	296, 298
Koetsi, <i>co.</i> , . . . . .	314
Kōḷi, <i>s. a.</i> Uraiṇūr, . . . . .	294, 297, 298, 307
Koṇḍinna, (Kaṇḍiṇya) . . . . .	328, 330

<sup>1</sup> The figures refer to pages : *n.* after a figure, to footnotes; and *add.* to the addition on pp. vii to xiii. The following other abbreviations are used :—*ch.* = chief; *co.* = country; *di.* = district or division; *do.* = ditto; *dy.* = dynasty; *E.* = Eastern; *f.* = female; *k.* = king; *m.* = male; *mo.* = mountain; *ri.* = river; *s. a.* = same as; *sur.* = surname; *te.* = temple; *vi.* = village or town; *W.* = Western.

	PAGE		PAGE
Kōṅga or Kōṅga-bhāmi, <i>s. a.</i> Kōṅgu,	203, 206, 257, 207, 309 n. 1	Kumbakonam, <i>vi.</i> ,	315 n. 1
Kōṅgarkōm̃ṇ, <i>title of the Pāṇḍya k.</i> Śaḍaiyaṇ,	203, 205	Kumudasūtra (°sūnu) or Kumuda-sūtra-vitthi, <i>di.</i> ,	317, 318, 325
Kōṅgar-kōṇ, <i>title of the Pāṇḍya k.</i> Parintaka Neḍuñjaḍaiyaṇ,	294, 295, 309	Kundāṇi, <i>vi.</i> ,	196
Kōṅgu or Kōṅgu-maṇḍalam, <i>co.</i> ,	206, 309 n. 1	Kundavvai, <i>queen of</i> Baṇavidyādharma,	3
Kōṅgu-Vaṇḍi, <i>vi.</i> ,	298	Kuṇḍiṅga, <i>k.</i> ,	315
Konnasagere, <i>vi.</i> ,	118, 120	Kundūr, <i>s. a.</i> Narēndra,	118, 120
Koppāram, <i>vi.</i> ,	306 n. 2	Kuntala, <i>co.</i> ,	13
Korkai, <i>vi.</i> ,	293, 204, 297, 305, 308, 309	Kūram, <i>vi.</i> ,	340
Korranputtūr, <i>vi.</i> ,	217, 308	Kuruba, <i>caste</i> ,	193
Kōsala, <i>co.</i> ,	13, 193	Kurukshētra,	119
kōtap̃ila, <i>office</i> ,	325	Kuṇmadai, <i>vi.</i> ,	294, 297, 307
Kōṭivarsha, <i>di.</i> ,	346	Kuṇmba, <i>tribe</i> ,	294, 295, 296, 303
Kōy-loḷugu, <i>Tamil work</i> ,	196	Kuṇ-nūḍu, <i>co.</i> ,	293, 297, 306
kōyiṇmai, <i>s. a.</i> kōyma,	112	Kuṇmbu-nūḍu (?) <i>s. a.</i> Nāṭṭukkūṇmbu	308
kōyma,	112	Kūshmāṇḍas, <i>demons</i> ,	344
Krishṇa, <i>god</i> ,	320	Kusumadēva, <i>ch.</i> ,	351, 352
Krishṇa-Rāja, <i>s. a.</i> the Rāshṭrakūṭa k. Krishṇa III,	3	Kusumapura, <i>s. a.</i> Pāṭaliputra,	317 <i>add.</i>
Krishṇa III, Rāshṭrakūṭa k.,	3	Kuṭhūrā, <i>vi.</i> ,	12
Krishṇā, <i>ri.</i> ,	15, 328	kuṭṇmbi, <i>a cultivator</i> ,	325, 332, 347
Krishṇa, <i>s. a.</i> Viṣṇu,	2, 6		L
Krishṇa-taṭāka, <i>tank</i> ,	117, 204	l used for l	1
Kṛita age,	203, 305	l used for r	118
Krōṣṭuka-vartanī, <i>di.</i> ,	333	l changed to l,	118, 121
ksh, replaced by tsh,	1	l changed to r,	118
Kshēmadat̃a, <i>m.</i> ,	348	Laghu-Ārya, <i>s. a.</i> Ārya-Siddhānta,	124
Kshētrap̃ila, <i>office</i> ,	325	Lakshmaṇa-sēna or Lakshmaṇasēnadēva, <i>Sēna k.</i> ,	353, 359, 360, 362
Kshitimāṇḍ-āhāra, <i>di.</i> ,	106	Lakshmi, <i>goddess</i> ,	202, 203, 306, 308, 326, 334
Kubēra, <i>god</i> ,	116	Lalla, <i>astronomer</i> ,	17
Kūḍal, <i>s. a.</i> Madura,	294, 297, 298, 307, 308	lampstand, <i>symbol on seal</i> ,	334
Kuḍaṽḍa, <i>vi.</i> ,	335, 337	Languages:—	
kuḷa-gadyāṇa, <i>coin</i> ,	111, 117	Beṅg̃ili,	189
Kuḷandaivaṇ, <i>m.</i> ,	308 and <i>add.</i>	Kannāḍa,	111
kuḷavaḍai, <i>tax</i> ,	112, 117	Old Kanarese,	7, 117, 212
Kulika, <i>people</i> ,	325	Prākṛit,	327, 328, 335, 338, 367
Kullūka, <i>commentator</i> ,	348 n. 3	Sanskrit,	1, 7, 12, 14, 111, 118, 120, 121, 123, 189, 194, 291, 292, 293, 297, 310, 327, 328, 329, 335, 338, 346, 351, 355, 356, 359, 360, 361
Kuḷumbūr, <i>vi.</i> ,	294, 297, 307	Tamiḷ,	1, 7 n., 291, 292, 293, 297, 314
Kūlvandai-śey, <i>field</i> ,	308	L̃ta, <i>co.</i> ,	311
kūlyavāpa, <i>land measure</i> ,	346, 348	Lanhiya, <i>ri.</i> ,	353
Kumāra, <i>s. a.</i> Skanda,	6	Layaha, Layaha-Chandra or Layaha-Chandradēva, Chandra k.,	351, 352
Kumāra-Guṇṭa I, <i>Guṇṭa k.</i> ,	345, 346, 347, n. 4, 348, 352	Leliyā, <i>vi.</i> ,	189, 190
Kumarajja (Kumār̃rya), <i>m.</i> ,	330		
Kumār̃at̃lakā-maṇḍala, <i>di.</i> ,	189, 190		

<sup>1</sup> The figures refer to pages: n. after a figure, to footnotes; and *add.* to the additions on pp. vi to xiii. The following other abbreviations are used:—*ch.* = chief; *co* = country; *di.* = district or division; *do.* = ditto; *dy.* = dynasty; *E.* = Eastern; *f.* = female; *k.* = king; *m.* = male; *mo* = mountain; *ri.* = river; *s. a.* = same as; *sur.* = surname; *te.* = temple; *vi.* = village or town; *W.* = Western.

	PAGE		PAGE
letters (Grantha), used as symbols for numbers, .	292	mahārāja, . . . . .	11, 12, 13, 14, 105, 108, 109, 110, 311, 325, 328, 330, 333, 335, 337, 338, 339
Leyden Museum, . . . . .	312, 313	mahārājādhirāja, . . . . .	8, 118, 122, 189, 190, 192, 311
linga, . . . . .	7, 357	Mahārathas, <i>race</i> (?), . . . . .	294, 297, 298, 307
lion, <i>crest</i> , . . . . .	120	mahāsāmanta, . . . . .	109, 296, 325
Lōkadatta, <i>m.</i> , . . . . .	353, 355	Mahāsudēva, <i>Śarabhapura ch.</i> , . . . . .	106 and <i>add.</i>
lotus bud, <i>symbol</i> , . . . . .	10	mahattama, <i>office</i> , . . . . .	325
<b>M</b>		mahattara, <i>do.</i> , . . . . .	109, 348, 348
<i>m &gt; v.</i> , . . . . .	7	Mahāyāna, <i>school of Buddhists</i> , . . . . .	312
<i>m</i> , <i>final form of</i> , . . . . .	1, 335	Mahēndrapāla, <i>Kanauj k.</i> , . . . . .	316 n. 4
Madaśakti, <i>wife of Kāmadēva</i> , . . . . .	324 n. 1	Mahēndravarma I, <i>Pallava k.</i> , . . . . .	14, 15, 16
Madavikalap, <i>title of Māraṅgāri</i> , . . . . .	294, 308	Mahēndravarma (II), <i>do.</i> , . . . . .	343
Madavikalap, <i>Māraṅgāri, s. a. Maṅgalarāja Ma-</i>		Mahēndravikramavarman, <i>s. a. Mahēndravarma</i>	
<i>dhurata</i> , . . . . .	294 <i>add.</i>	I, . . . . .	15 n.
Mādhyava, <i>m.</i> , . . . . .	105, 108	Mahēśvara, <i>s. a. Śiva</i> , . . . . .	333
Mādhyavārādhyā, <i>m.</i> , . . . . .	197, 204	Mahīpāla or Mahīpāladēva I, <i>Pāla k.</i> , . . . . .	353, 354, 355
Mādhyavarman (I), <i>Fishnukundin k.</i> , . . . . .	338	Mahīpāla II, <i>do.</i> , . . . . .	355
Mādhyavarman (II), <i>do.</i> , . . . . .	338, 339	Mailala-dēvi or Mailala-mahādēvi, <i>queen of the</i>	
Mādhyavarman (III), <i>do.</i> , . . . . .	335, 337, 338	<i>Kādamba ch. Jayakēsi II</i> , . . . . .	118, 120
Madhuban, <i>vi.</i> , . . . . .	359	Maitraka, <i>dy.</i> , . . . . .	105, 108, 109
madhūka, <i>tree</i> , . . . . .	325	Māla, <i>s. a. Viṣṇu</i> , . . . . .	361
Madhurata, <i>title of Maṅgalarāja</i> , . . . . .	294, 309	Māladatta, <i>m.</i> , . . . . .	360, 361, 362
Madhurata, <i>title of Māraṅgāri</i> , . . . . .	295	Malādar-Kōmān, <i>sur. of Meyporūl-Nāyanār</i> , . . . . .	315 n.
Madhusūdana, <i>m.</i> , . . . . .	351, 352	Malaimān or Malaiyamān, <i>sur. of the chiefs of</i>	
Madras Museum, . . . . .	1, 195, 292, 293, 295, 296	<i>Milādu</i> , . . . . .	314, 315 n. 1
Madura country, . . . . .	295	Malaiya-nādu, <i>hill country</i> , . . . . .	314
Madura, <i>vi.</i> , . . . . .	294 n. 3, 297, 298, 307, 308	Maḷa-Koṅgam, <i>co.</i> , . . . . .	294, 296, 297, 307
Madura-Karṇāṭakaṇ, <i>title of the Pāṇḍya k.</i>		Maḷa-nādu, <i>di.</i> , . . . . .	112, 114, <i>add.</i> , 117, <i>add.</i> , 297
Madaiyan, . . . . .	293	Maḷa-nādu, <i>s. a. Maḷa-nādu</i> , . . . . .	111, 112, 117
Magadha, <i>co.</i> , . . . . .	311, 313, 316	Mālava, <i>co.</i> , . . . . .	193
Mahābalipuram, <i>vi.</i> , . . . . .	16	Maḷava (Maḷava), <i>s. a. Maḷa-nādu</i> , . . . . .	293, 297, 305
Mahābhārata, <i>quoted</i> , . . . . .	343 n. 2	Maḷavalli, <i>vi.</i> , . . . . .	337 n. 7
mahādāna, the sixteen, . . . . .	116, 328, 337 n. 4	Mālavas, <i>people</i> , . . . . .	325
Mahādandanāyaka, . . . . .	325	Malaya, <i>co.</i> , . . . . .	313 n. 2
mahādānāśādhanaika, <i>office</i> , . . . . .	325	Malaga, <i>mo.</i> , . . . . .	338, 339
Mahādēvi, <i>title</i> , . . . . .	357	Mālinī, <i>metre</i> , . . . . .	197, 342
Mahākāntāra, <i>s. a. Puṇḍra</i> , . . . . .	316 n. 2	Malladēva, <i>Bāṇa k.</i> , . . . . .	2, 3, 6
mahākārttākṛitika, <i>office</i> , . . . . .	325	Malla-Gāruṇḍa, <i>m.</i> , . . . . .	120
mahākumārāmūtya, <i>do.</i> , . . . . .	325	Malli-Bhātta, <i>m.</i> , . . . . .	204
mahamai, <i>tax</i> , . . . . .	112, 117	Mallikīrjuna, <i>Vijayanagara k.</i> , . . . . .	196
Mahāmaṇḍalēśvara, . . . . .	120	Mallana, <i>m.</i> , . . . . .	197
mahānagara, . . . . .	294	Maluhā-tōṅgi, <i>hill</i> , . . . . .	12
Mahāntāprakāśa-vishaya, <i>di.</i> , . . . . .	348	Māmaṇḍūr, <i>vi.</i> , . . . . .	15
Mahā (or, the second) Ārya-Siddhānta, <i>astronomi-</i>			
<i>cal work</i> , . . . . .	124		
mahāpratihāra, <i>office</i> , . . . . .	325		

\* The figures refer to pages: n. after a figure, to footnotes; and *add.* to the additions on pp. vii to xiii. The following other abbreviations are used:—*ch.*=chief; *co.*=country; *di.*=district or division; *do.*=ditto; *dy.*=dynasty; *E.*=Eastern; *f.*=female; *k.*=king; *m.*=male; *mo.*=mountain; *ri.*=river; *s. a.*=same as; *sur.*=surname; *te.*=temple; *vi.*=village or town; *W.*=Western.

	PAGE
Mamunaka, m., . . . . .	105, 108, 109, 110
maṇaippēṟukaḍamai, <i>tax</i> , . . . . .	112, 117
Mañchyanna-bhaṭṭāraka, <i>Viśhnukunḍin prince</i> , . . . . .	835, 337
Maṇḍagappattu, <i>vi.</i> , . . . . .	14
maṇḍala, . . . . .	316, 318
maṇḍapa, . . . . .	14
Mandara, <i>mo.</i> , . . . . .	304
Mandasor, <i>vi.</i> , . . . . .	193
Maṅgalapuram, <i>s. a. (P) Mangalore</i> , . . . . .	298
Mangalore, <i>vi.</i> , . . . . .	196, 298
Maṅgalarāja, <i>s. a. Muraṅgāri</i> , . . . . .	309
Maṅgalarāja Madhurātura, <i>s. a. Madavikabaṇ</i> . . . . .	
Muraṅgāri, . . . . .	294 and <i>add.</i>
Manianwan, <i>vi.</i> , . . . . .	317
Maṇivāṭaka, <i>vi.</i> , . . . . .	311, 317, 318, 324, 325
Meñjuśrī, <i>Buddhist goddess</i> , . . . . .	312
Mankuwar, <i>vi.</i> , . . . . .	352
Maṇṇaikkuḍi, <i>s. a. Maṇṇikugichchi</i> , . . . . .	297 n. 4
Maṇṇikugichchi, <i>vi.</i> , . . . . .	294, 297, 307
Manu, <i>myth. k.</i> , . . . . .	307
Manu, <i>quoted</i> , . . . . .	348 n. 3
Mēraṇ Eyiṇaṇ, <i>m.</i> , . . . . .	296
Muraṅgāri, <i>m.</i> , . . . . .	294, 295, 296, 308, 309 n. 1
Mēraṇjaḍaiyaṇ, <i>Pāṇḍya k.</i> , . . . . .	295
Maratakanagara ( <i>Vīriñchipuram</i> ), <i>vi.</i> , . . . . .	195
maravaḍai, <i>tax</i> , . . . . .	112, 117
Māgavarman (I), <i>Avanichūlīmāni, Pāṇḍya k.</i> , . . . . .	297
Māgavarman (II), <i>Arikēsari Asamaśuman</i> , . . . . .	
<i>Pāṇḍya k.</i> , . . . . .	297
Māgavarman (I), <i>do.</i> , . . . . .	293, 304, 306
Māgavarman (II), <i>do.</i> , . . . . .	305, 306
Māgavarman Rājasimha, <i>do</i> , . . . . .	293
Māgavarman Sundara-Pāṇḍya I, <i>do.</i> , . . . . .	295
Māraṇvijayōttuṅgavarman, <i>Śailēndra k.</i> , . . . . .	312, 313
Marudūr <i>s. a. Tiruppuḍaimarudūr</i> , . . . . .	298
Marudūr, <i>vi.</i> , . . . . .	293, 297, 307
maṭha, <i>a monastery</i> , . . . . .	10, 120
Mathura Museum, . . . . .	10, 11
Mathura, <i>vi.</i> , . . . . .	10, 11
matṭar, <i>land measure</i> , . . . . .	10, 120, 123
Mattavilūsa, <i>surname of Mahēndravarmān I</i> , . . . . .	15
Mattavilāśagrahasana, <i>book</i> , . . . . .	15, 16
Maṭṭopād, <i>vi.</i> , . . . . .	327, 337 n. 4
Maṅkhari, <i>dy.</i> , . . . . .	193
Maurya, <i>dy.</i> , . . . . .	317

	PAGE
Māyā, mother of Buddha, . . . . .	326
māvaḍai, tax, . . . . .	12, 117
Mayidavōln, vi., . . . . .	337 n. 7
Mēdas, class of people . . . . .	325
Meemeeguttee, s. a. Momigaṭṭi, . . . . .	117 n.
Mēghavarṇa, Ceylon k., . . . . .	313 & n. 2
Mēhārkul, di., . . . . .	351
Melūdēvi, queen of the Vijayanagara k. Harīhara II., . . . . .	203
Melemuṇi, di. (?), . . . . .	111, 112, 117 and add
Mēliyala, tribe, . . . . .	314
Mēra, mo., . . . . .	304, 307
metres :—	
Āryāgīti, . . . . .	341
Drutavilambita, . . . . .	292
Lalitā, . . . . .	341
Malabhāriṇī, . . . . .	292
Pragīti, . . . . .	341
Sagīti, . . . . .	341
Upēndravajrā, . . . . .	292
Vasantatilakā . . . . .	292, 318, 342
Meypporuḷ-Nāyaṇār, Milāḍu ch., . . . . .	315 n.
Mihirakula, Hūṇa k., . . . . .	193
Milāḍu, contracted form of Malaiya-nāḍu, . . . . .	314
Milāḍudaiyār-palli, te., . . . . .	315 n. 1
Milāḍudaiyār, the chiefs of Milāḍu, . . . . .	314
Mīmāṃsā, . . . . .	197, 204
miyāṭchi, tax, . . . . .	308
Momigaṭṭi, vi., . . . . .	117
Monghyr, vi., . . . . .	310
months, lunar :—	
Āshāḍha, . . . . .	111, 117, 118, 120, 350, 352
Āsvayuja, . . . . .	110
Āsvina, . . . . .	110 and add., 120 n.
Chaitra, . . . . .	121, 123
Kārttika, . . . . .	111, 120 n., 196, 203, 320, 331, 334
Māgha, . . . . .	355
Vaiśākha, . . . . .	106, 108
months, solar :—	
Kārtika, . . . . .	311, 326
Moon, family of the, . . . . .	116, 194, 293, 294, 394
Mṛida, s. a. Śiva, . . . . .	120
Mṛigadāva, forest, . . . . .	310
Mūḍa-nāḍa, di., . . . . .	197, 204
Mudgaḡiri, s. a. Monghyr, . . . . .	310
Muddanārya or Muddanāchārya, m., . . . . .	197 & n., 204

<sup>1</sup> The figures refer to pages: *n.* after a figure, to footnotes; and *add.* to the additions on pp. vii to xiii. The following other abbreviations are used:—*ch.*=chief; *co.*=country; *di.*=district or division; *do.*=ditto; *dy.*=dynasty; *E.*=Eastern; *f.*=female; *k.*=king; *m.*=male; *mo.*=mountain; *ri.*=river; *s. a.*=same as; *sur.*=surname; *te.*=temple; *vi.*=village or town; *W.*=Western.



	PAGE
Mudukudumi, <i>s. a.</i> Palyāgamudukudumi	293 n. 3.
Peruvajudi, . . . . .	188
Mughals, . . . . .	195
Muhammadan, . . . . .	356
Muhammad-bin-Bakhtyar, <i>Khilji k.</i> , . . . . .	332
Mukhalingam, <i>vi.</i> , . . . . .	121, 123
Mūla-Saṅgha, . . . . .	314, 315
Mēlavaramman, <i>k.</i> , . . . . .	2 n.
Multāi, <i>vi.</i> , . . . . .	310, 311, 315, 324; 328 n. 1
Mungir (Monghyr), <i>vi.</i> , . . . . .	92
Mura, <i>demon</i> , . . . . .	295, 296, 309
Mārti Eyinan, <i>m.</i> , . . . . .	295, 296, 309
Mūru-r yara-gaṇḍa, <i>title of Vijayanagara</i>	
<i>kings</i> , . . . . .	111, 116, 194, 208
Muguvadu, <i>land</i> , . . . . .	121, 123
Museum, of the Varendra Research Society, . . . . .	198
Musiri, <i>vi.</i> , . . . . .	296
Mussalman, . . . . .	189
Mūvēndamaṅgala-pP ē r a r a i y a n, <i>sur. of</i>	
Māraṅgāri, . . . . .	294, 295, 208

## N

<i>n</i> , form of, . . . . .	12
Nāchanē-ki-talāi, inscription at, . . . . .	12
Nachna, <i>s. a.</i> , Nāchanē-ki-talāi, . . . . .	362
Nadiune, <i>vi.</i> , . . . . .	317
nāḍu, <i>a district assembly</i> , . . . . .	294
Nāga, . . . . .	10, 11
Nāgapattana, <i>s. a.</i> Negapatam, . . . . .	313
Nagara, <i>s. a.</i> , Pātāṇputra, . . . . .	317 add.
Nagara, <i>s. a.</i> Śrīnagara, . . . . .	317
Nagara-bhukti, <i>legend on seal</i> , . . . . .	317 n. 6
Nagara-bhukti, <i>s. a.</i> Śrīnagara-bhukti, . . . . .	317 n. 6
Nagaraka, <i>vi.</i> , . . . . .	109
Nāgar Brāhmaṇa, . . . . .	109
Nagarūr, <i>vi.</i> , . . . . .	297, 308
Nāgaśarman, <i>m.</i> , . . . . .	348
Nāgasēna Paṇḍita, <i>Jain teacher</i> , . . . . .	121, 123
nāga, <i>tree</i> , . . . . .	305 343
Nāḍi . . . . .	10
Nai-Pokhar, <i>vi.</i> , . . . . .	317
Naiśadha-kāvya, <i>quoted</i> , . . . . .	308 n. 3
Nakkirar, <i>Tamil commentator</i> , . . . . .	296
nakshatras :—	
Pushya . . . . .	350, 352

Nālandā University, . . . . .	317
Nālandā, <i>vi.</i> , . . . . .	310, 311, 312, 313, 314, 315, 316, 317, 318, 325, 327, 358
Nāmakkal, <i>vi.</i> , . . . . .	296 n., 297
Namuchi, <i>demon</i> , . . . . .	208
Nandarija, <i>mistake for Nannarija</i> , . . . . .	2 n.
Nanda, <i>s. a.</i> (?) Nandivarman, . . . . .	2, 6
Nandija, <i>m.</i> , . . . . .	328 n. 2
Nandijja (Nandyārya), <i>m.</i> , . . . . .	330
Nandivanika, <i>vi.</i> , . . . . .	311, 327, 318, 324, 325
Nandivarman, <i>Bāṇa k.</i> , . . . . .	2, 3, 6
Nandivarman (II), <i>Pallava k.</i> , . . . . .	297 n. 4
Nannarija, <i>Rāshtrakūṭa k.</i> , . . . . .	2 n.
Nāranadēvi-anva, <i>s. a.</i> Nārīyaṇimbikā, . . . . .	111 add., 117 and add.
Nara, <i>s. a.</i> Arjuna, . . . . .	305
Narasīṅga (Narasimha)-Munaiyaraṇḍar, <i>Milāḍu</i>	
<i>ch.</i> , . . . . .	315 n.
Nārāyaṇa-datta, <i>m.</i> , . . . . .	361
Nārāyaṇa (Vishṇu), <i>god</i> , . . . . .	6, 120, 203, 361
Nārāyaṇa, <i>m.</i> , . . . . .	260, 362
Nārīyaṇimbikā, <i>queen of the Vijayanagara k.</i>	
Vijayabhūpati, . . . . .	111, 116
Nārāyaṇa (Vishṇu), <i>image</i> , . . . . .	353, 355
Nārāyaṇidēvi, <i>s. a.</i> Nārāyaṇāmbikā, . . . . .	194, 208
Narēndra, <i>vi.</i> , . . . . .	118
Narakkorān, <i>m.</i> , . . . . .	298, 305, 306
Narttēśvara (Nātēśa), <i>image</i> , . . . . .	349, 351, 352
Nāsik, <i>vi.</i> , . . . . .	337 n. 7, 339 n. 5.
Nātēśa, <i>form of Śiva</i> , . . . . .	349
Nātēśvara, <i>vi.</i> , . . . . .	349
Nātōre, <i>vi.</i> , . . . . .	345
Natikā, <i>s. a.</i> Nai Pokhar, . . . . .	317, 318, 325
Natikā, <i>vi.</i> , . . . . .	311, 324
Nāṭṭukkūmbu, <i>s. a.</i> Kūṇambu-nāḍu . . . . .	308
Nāṭṭukkūmbu, <i>vi.</i> , . . . . .	294, 295, 297
Nannvan, <i>s. a.</i> Nadiune, . . . . .	317
Navannaka, <i>vi.</i> , . . . . .	106 and add.
naya, . . . . .	318
Neḍumṇan, <i>Pāṇḍya k.</i> , . . . . .	296, 297
Neḍuṇḍaiyaṇ, <i>do.</i> , . . . . .	292, 291,
	295, 296, 297, 307
Neḍuṇḍeliyaṇ, <i>s. a.</i> Seliyaṇ, . . . . .	297
Neḍuvayal, <i>vi.</i> , . . . . .	294, 297, 307
Negapatam, <i>vi.</i> , . . . . .	813
Nelvēli (Tirunelvēli), <i>s. a.</i> Tinnevely, . . . . .	293, 297, 306
Nēriyar, <i>s. a.</i> Chōḷa, . . . . .	307

<sup>1</sup> The figures refer to pages: *n.* after a figure, to footnotes; and *add.* to the additions on pp. vii to xiii. The following other abbreviations are used:—*ch.*=chief; *co.*=country; *di.*=district or division; *do.*=ditto; *dyn.*=dynasty; *E.*=Eastern; *f.*=female; *k.*=king; *m.*=male; *mo.*=mountain; *vi.*=river; *s. a.*=same as; *sur.*=surname; *te.*=temple; *vi.*=village or town; *W.*=Western.

	PAGE
Nidhanpur, <i>vi.</i> , . . . . .	359
Nilakanṭhanār, <i>m.</i> , . . . . .	296
Niṭṭura, <i>vi.</i> , . . . . .	197, 203
nivi or nivi-dharma, <i>permanent endowment</i> , . . . . .	346, 348
Niyu, <i>m.</i> , . . . . .	11 <i>add.</i>
<i>nma</i> for <i>tma.</i> , . . . . .	291
<i>ṣṛita</i> , contracted form of <i>sūṣṛita</i> , . . . . .	118
Nowgong, <i>vi.</i> , . . . . .	316 <i>n. 4</i>
numerical figures, . . . . .	351, 355
numerical symbols, . . . . .	105, 106, 108, 110, 327, 328, 335, 339.

## O

<i>o</i> for <i>aw</i> (in Prākṛit), . . . . .	328
Ōḍras, <i>co.</i> , . . . . .	311
Ōḍras, <i>people</i> , . . . . .	325
Oḍumaiyiruppaṣey, <i>field</i> , . . . . .	308
oḷakku-nir-pāṭṭam, <i>tax</i> , . . . . .	112 and <i>add.</i> , 117 and <i>add.</i>
ōh, <i>symbol</i> , . . . . .	292 & <i>n.</i> 352
ōm, used in place of numeral 'one' . . . . .	327
Orissa, <i>co.</i> , . . . . .	314 <i>n. 4</i>
Oḍḍa, <i>co.</i> , . . . . .	193

## P

<i>p &gt; h</i> . . . . .	118
paichai, a <i>nizar</i> , . . . . .	112
paḍāḡāra, <i>land measure</i> , . . . . .	309
paḍai-kāṇike, <i>tax</i> , . . . . .	112 and <i>add.</i> , 117
pāḍāvarita, <i>land measure</i> , . . . . .	108, 109
Padmā, <i>river</i> , . . . . .	189
Padmāsānā, <i>s. a.</i> Lakshmi, . . . . .	305
Pagalatṭi, <i>see</i> Hagaratage.	
Pagalatṭi Three-hundred, <i>di.</i> , . . . . .	7, 8, 9
Pāḡapūr-kūḡḡam, <i>di.</i> , . . . . .	293, 294, 297, 305, 308
Pāla, <i>dy.</i> , . . . . .	188, 189, 310, 311, 315, 316, 353, 354, 355, 358 <i>n.</i> , 359
Pālānaka, <i>vi.</i> , . . . . .	311, 317, 318, 325
Palembang, kingdom of, . . . . .	313 & <i>n.</i> 3
pāli, <i>bank of a field</i> , . . . . .	334
Pālitānā, <i>vi.</i> , . . . . .	105, 106, 107 <i>n.</i> , 108, 109 <i>n.</i>
Pāḷi, <i>vi.</i> , . . . . .	293, 297, 306

Pallava, <i>dy.</i> , . . . . .	14, 15, 294, 296, 307, 315 <i>n.</i> , 328, 340
Pallavamalla, <i>sur. of</i> Nandivarman II, . . . . .	293, 297, 306
Pallāvaram, <i>vi.</i> , . . . . .	16
Palyāgamudukudami Peruvajudi, <i>Pāṇḍya k.</i> , . . . . .	293, 294, 305, 308
Paṇamkarana, <i>Śailendra k.</i> , . . . . .	312 <i>n. 3</i>
pañchiṅga-mantra, explained . . . . .	6 <i>n.</i>
Pañchavaggīyas, . . . . .	310
Pāṇḍamaṅgalam, <i>vi.</i> , . . . . .	111, 112, 116, 117 and <i>add.</i>
Pāṇḍik-Koḍumidi, <i>s. a.</i> Koḍumudi, . . . . .	294, 297, 298, 307
Pāṇḍi-pPerumbanaikkāraṇ, <i>m.</i> , . . . . .	295
Pāṇḍitavatsala, <i>birada of the Pāṇḍya k.</i> Parān- taka-Neḍuñjaḍaiyaṇ . . . . .	296, 307
Pāṇḍiya, <i>tribe</i> , . . . . .	314
Pāṇḍiya-pPerumbanaikkāraṇ, <i>m.</i> , . . . . .	295
Pāṇḍya, <i>co.</i> , . . . . .	294, 315 <i>n.</i>
Pāṇḍya, <i>dy.</i> , . . . . .	3, 291, 293, 294, 295, 296, 297, 304, 307, 308, 309
Pāṇḍya, <i>myth. k.</i> , . . . . .	293, 304
Pāṇḍyādhirāja, <i>title</i> , . . . . .	297, 306
Pāṇini, . . . . .	292
Pāṇini, <i>quoted</i> , . . . . .	291
Parahitāchāri, <i>m.</i> , . . . . .	7
paramabhaṭṭāṛuka, <i>title</i> , . . . . .	8, 118, 122, 189, 190, 192, 311, 348
parama-daivata, <i>do.</i> , . . . . .	348
parama-Saṅgata, <i>do.</i> , . . . . .	189, 311
Paramēshthīn, <i>s. a.</i> Brahmā, . . . . .	7
paramēśvara, <i>title</i> , . . . . .	8, 118, 122, 189, 190, 192, 294, 311
Paramēśvaravarman I, <i>Pallava k.</i> , . . . . .	340, 343, 344
Parāntaka I, <i>Chōḷa k.</i> , . . . . .	3
Parāntaka Neḍuñjaḍaiyaṇ, <i>Pāṇḍya k.</i> , . . . . .	291, 295
Parāntaka, <i>sur. of</i> Jaṭila ( <i>s. a.</i> Neḍuñjaḍaiyaṇ), . . . . .	291, 305
Parāntaka, <i>sur. of</i> Mārañjaḍaiyaṇ, . . . . .	295
Parāntaka, <i>sur. of</i> Neḍuñjaḍaiyaṇ, . . . . .	291, 307
Pararāya-bhayaṅkara, <i>title of Vijayanagara</i> <i>kings</i> , . . . . .	194, 203
Parāśara, <i>sage</i> , . . . . .	326
Parakuramēśvara, <i>te.</i> , . . . . .	2, 7
Parava, <i>tribe</i> , . . . . .	293, 297, 306
parihāra, <i>an exemption</i> , . . . . .	7.
Pārikud, <i>vi.</i> , . . . . .	331
Parlā-Kimeḍi, <i>vi.</i> , . . . . .	331 <i>n. 2</i>
Pārtha, <i>s. a.</i> Arjuna, . . . . .	307

<sup>1</sup> The figures refer to pages; *n.*, after a figure, to footnotes; and *add.* to the additions on pp. vii to xiii. The following other abbreviations are used: —*ch.* = chief; *co.* = country; *di.* = district or division; *do.* = ditto; *dy.* = dynasty; *E.* = Eastern; *f.* = female; *k.* = king; *m.* = male; *mo.* = mountain; *ri.* = river; *s. a.* = same as; *sur.* = surname; *te.* = temple; *vi.* = village or town; *W.* = Western.

	PAGE		PAGE
Pārvati, goddess, . . . . .	202, 208, 326	prāntapāla, official, . . . . .	311
Paśupati, s. a. Śiva, . . . . .	294, 307	prāpa, a territorial division smaller than āhāra, . . . . .	106, 107
pātaka, land measure, . . . . .	189	prāpiya, s. a. prāvēśya, . . . . .	105, 106, 107
Pāṭaliputra (Patna), vi., . . . . .	317	prāsasti, . . . . .	2, 7, 293, 305, 309
paṭṭikā, a copper-plate . . . . .	330 n.	Pratāpa, title of Vijayanagara kings, . . . . .	203
Pattuppāṭṭu, Tamil anthology, . . . . .	315 n.	Pratāpa-Dēvarāya, s. a. Dēvarāya I, . . . . .	111, 116
Paulīśa-Siddhānta, astronomical work, . . . . .	124	Pratāpa, Pratāparāya, Pratāpa-Dēvarāya or Pratāpa-Dēvarāya-Mahārāya, Vijayanagara prince, . . . . .	194, 195, 196, 203
Paulōmī, s. a. Śāchi . . . . .	320	Pratāpa-Devarāya (I), s. a. Dēvarāya I, . . . . .	194
Paundra or Paundravardhana, s. a. Puṇḍra, . . . . .	193, 316	Prathamabhadra, m., . . . . .	357 n.
Pāyat, vi., . . . . .	297, 308	pratihāra, office, . . . . .	108, 109, 110
peacock, vehicle of Skanda, . . . . .	16 n.	Pratipati-Araiyar, s. a. Prithvipati I, . . . . .	3
Pennāgaḍam, vi., . . . . .	294, 295, 297, 298, 308	pratyāya, . . . . .	108
Pēraṇai, vi., . . . . .	14	Praudha-Dēvarāya-Mahārāya, s. a. Pratāpa, . . . . .	195
Periyalūr, vi., . . . . .	294, 297, 307	Praudhapratāpa, s. a. Pratāpa, . . . . .	195, 203
Periyapurāṇam, Tamil work, . . . . .	315 n.	Praudhapratāpa-Dēvarāya, s. a. Dēvarāya I, . . . . .	196
pēr-kkaḍamai, tax, . . . . .	112	Pravarasēna I, Vākāṭaka k., . . . . .	13 and add.
pērmattī, drum, . . . . .	120	Pravarasēna II, do., . . . . .	13 and add., 362
Perumbanaikkāraṇ s. a. Pāṇḍiya-pPerumbanaikkāraṇ . . . . .	294	prāvēśa or pravēśa, a territorial division smaller than āhāra . . . . .	107
Pilipinḱā-naya, di., . . . . .	317, 318, 324	prāvēśya, . . . . .	105, 108 and add., 107, 108
Pilipinḱā, s. a. Pilkhī, . . . . .	317	Prāvṛḍjanapada, s. a. Mala-nāḍu, . . . . .	117 add.
Pilkhī (Pilkce-mauza), vi., . . . . .	317	Prayāga, vi., . . . . .	119
Pillaiyār-śūlī, symbol, . . . . .	352 n.	Prithvipati I, W. Gaṅga k., . . . . .	3
pillaiyār-śūlī, symbol used as a mark of punctuation, . . . . .	292	Prithvipati II, do., . . . . .	3
Piṅgala, m., . . . . .	348	Prithvishēṇa (I), Vākāṭaka k., . . . . .	12, 13, 14, 362
Piragadattai (Bhṛigu-Datta), Arya k., . . . . .	315 n.	Prithvishēṇa II, do., . . . . .	13, 362
piśūcha, a demon, . . . . .	344	Prithu, myth. k., . . . . .	311
Pitamaha, m., . . . . .	356	Pṛiti, wife of Kūmadēva, . . . . .	324 n. 1, 326 n. 4
pluta, . . . . .	292	Pudāṅkōḍu, vi., . . . . .	294, 297, 307
Pōlayya's Math, . . . . .	7	Pugaḷvippavarganḍa, sur. of Bāṇa Vijayāditya (III), . . . . .	3
Ponnuladēvi, queen of the Vijayanagara prince Pratāpa, . . . . .	196	Pulakēśin II, W. Chalukya k., . . . . .	306 n. 2
ponnu = kaṇṇu, . . . . .	2, 6, 7	Puliyūr, vi., . . . . .	293, 297, 306
Poona plates, of the Vākāṭaka queen Prabhāvatī-Guptā, from, . . . . .	13 add., 362	puḷḷi, . . . . .	291
Prabhāvatī, queen of Dēvakhaḍga, . . . . .	357, 358, 359	Puṇa-pPūḷiyar, biruda of Parāntaka Neḍuṇḍaiyan . . . . .	294, 308
Prabhāvatī-Guptā, Vākāṭaka queen, . . . . .	13 add., 362	Puṇḍra or Puṇḍravardhana, co., . . . . .	316
Prabhumēru, sur. of the Bāṇa king Vijayāditya II, . . . . .	2, 3, 6, 7	Puṇḍravardhana-bhukti, di., . . . . .	346
Prāggyōtisha (Gauhati or Assam), co., . . . . .	316 n. 4	punnāga, tree, . . . . .	343
Prabharshinī, metre, . . . . .	318	paṇu-payir, tax, . . . . .	112, 117
prajñāp-rāmitā, Buddhist-dharma, . . . . .	325	puram, revenue assessment, . . . . .	2
Pranātri, official, . . . . .	311, 325	Purāṇas, . . . . .	329
Prābanan, temple at, . . . . .	312	Puṇanāpūru, Tamil anthology, . . . . .	295, 297
		Purandara, s. a. Indra, . . . . .	305

<sup>1</sup> The figures refer to pages: n. after a figure, to footnotes; and add. to the additions on pp. vii to xiii. The following other abbreviations are used:—cā.=chief; co.=country; di.=district or division; do.=ditto; g.=dyasty; K.=Eastern; f.=female; k.=king; m.=male; mo.=mountain; ri.=river; s. a.=same as; sur.=surname; te.=temple; vi.=village or town; W.=Western.

	PAGE
puravu, revenue assessment, . . . . .	7 n.
Pūrṇa-Chandra, <i>Chandra k.</i> , . . . . .	190, 192
Purōga, official (?), . . . . .	325
Purūras, myth. k., . . . . .	293, 304
Pūrva-rājar, kings of the Eastern co., . . . . .	294, 296, 309
Pushpitāgrā, metre, . . . . .	318
Pūvalūr, vi., . . . . .	294, 297, 307

## R

r, consonants doubled after, . . . . .	2, 189,
	291, 325, 327, 338, 346, 351
r, consonants doubled before, . . . . .	2, 338, 346
r, form of, . . . . .	12
ri, form of, . . . . .	121
ri for ri or ru, . . . . .	291
ri, subscribed form of, not distinguished from r, . . . . .	1
race, lunar, . . . . .	311, 314, 315, 316, 326
Raghuvamśa, poem, . . . . .	293 n. 1
rainy season (varsha), . . . . .	11
Rājādhirāja, title, . . . . .	194
Rājagamābhīra-vaṇaṇḍu, di., . . . .	111, 112, 114 add., 117
Rājagriha (Rājgir), vi., . . . . .	317
Rājagriha-vishaya, di., . . . . .	311, 317, 318, 324
Rājākṣarivarman, Chōla k., . . . . .	315 n. 1
Rājākṣarivarman, sur. of Rājārāja I, . . . . .	312
Rājāmūtya, official, . . . . .	325
Rājamaṇḍikā, astronomical work, . . . . .	124, 125
Rājaparamēśvara, title, . . . . .	194, 203
Rājaputraka, official (?), . . . . .	325
Rājārāja (I.), Chōla k., . . . . .	312, 313, 315 n. 1
Rājārāja, s. a. Kubēra, . . . . .	116
Rājārāja-vaṇaṇḍu, di., . . . . .	112, 114 add., 117
Rājārāpaka, official, . . . . .	325
Rājasiṃha, sur. of the Gāṅga k. Hastivarman, . . . . .	331, 334
Rājasiṃha, birudi of Indravarman I, . . . . .	331
Rājasiṃha, sur. of the Pāṇḍya k. Māravarman II, . . . . .	293, 305
Rājasiṃha, do. Tēr-Māraṇ, . . . . .	297
Rājāsraya-vaṇaṇḍu, di., . . . . .	296
Rājāsraya-vaṇaṇḍu, sur. of Maṇa-nāḍu, . . . . .	297 n. 3
Rājasthāniya, official, . . . . .	325
rājātīrāja (rājādhirāja), title, . . . . .	11, 208
Rājendra-Chōla I, Chōla k., . . . . .	313, 350, 351
Rājahāhi, di., . . . . .	316
Rājahāhi Museum . . . . .	349

	PAGE
Rājahāhi, vi., . . . . .	193
rājya, a province . . . . .	117
rakshā, confirmation of a former grant, . . . . .	2
Rākshasa, a demon, . . . . .	344
Rāl, vi., . . . . .	10
Rāma, epic hero, . . . . .	120
Rāmaka, m., . . . . .	348
Ramaññādēsa (Lower Burma), co., . . . . .	312
Rāmatīrtham, vi., . . . . .	334 n. 2, 335, 337 n. 4
Rāmāyana, Epic, . . . . .	312
Rāmpāl, vi., . . . . .	183, 189, 355, 359
Raṇabhīta, sur. of the Gāṅga k. Hastivarman, . . . . .	331, 334
Raṇadhīra, Pāṇḍya k., . . . . .	293, 305
Raṇadhīra, sur. of Śaḍaiyaṇ, . . . . .	297
raṅga-bhōga, . . . . .	117
Raṅgaśātha, te., . . . . .	110, 111, 116, 117
Rasēśvara, m., . . . . .	197, 204
Rāshtrakūṭa, dy., . . . . .	2 n. 3
Rathōddhatā, metre, . . . . .	318
Ratī, wife of Kāmadēva, . . . . .	324 n. 1, 326
Ratōka, m., . . . . .	351, 352
Rāyagaṭṭe, bund (?), . . . . .	121, 123
rāyasa, a secretary, . . . . .	204
Rōtghamitra, m., . . . . .	110
Rudavennhuja, m., . . . . .	328 n. 3
Ruddeja (Rudrārya), m., . . . . .	330
Rudradhara, m., . . . . .	109 add.
Rudrasōna I, Vākāṭaka k., . . . . .	13
Rudrasōna II, do., . . . . .	13 add.

## S

Śabdakalpadrūma, lexicon, . . . . .	317 n. 3
Śāhī, wife of Indra, . . . . .	208
Śaḍaiyaṇ, Pāṇḍya k., . . . . .	293, 295, 296, 297, 307
Saddharmapūṇḍarika, quoted, . . . . .	325 n. 3
Sagara, myth. k., . . . . .	311, 348, 349
Sāhityadarpaṇa, quoted, . . . . .	1, 326 n. 3
Sahyādri, mo., . . . . .	296
Sahyakanyā s. a. Kāvōri, . . . . .	117 add.
Śailavarṇa, dy., . . . . .	314
Sailendra, dy., . . . . .	311, 312 & n. 4,
	313, 314, 315, 326
Sailōdbhava, dy., . . . . .	314, 331
Saiva, . . . . .	118, 349, 315 n.

<sup>1</sup> The figures refer to pages: n. after a figure, to footnotes; and add. to the additions on pp. vii to xiii. The following other abbreviations are used:—ch.=chief; co.=country; di.=district or division; do.=ditto; dy.=dynasty; E.=Eastern; f.=female; k.=king; m.=male; mo.=mountain; ri.=river; s. a.=same as; sur.=surname; te.=temple; vi.=village or town; W.=Western

	PAGE		PAGE
Sajjalūr, vi., . . . . .	195	Sārṇāth, vi., . . . . .	188, 310
Sākhās and Vēdas; —		Sarugi, . . . . .	121, 123
Bahvricha, . . . . .	204	Sarvadamaṇa, <i>sur. of Bharata</i> , . . . . .	343
Chhandōga, . . . . .	105, 108, 110	Sarvakratnyājīn, <i>title</i> , . . . . .	293, 305
Rik, . . . . .	203, 204	sarvamānya, <i>tenure</i> , . . . . .	204
Vājasanēya or Vājisanēya, . . . . .	109, 334	sarvanamāya, <i>tenure</i> , . . . . .	120, 123
Yajus, . . . . .	204	Śarvvāṇi, <i>image</i> , . . . . .	357, 358, 359
Sakra, <i>s. a. Indra</i> , . . . . .	304, 305	sa-saibaram, . . . . .	106, 108
Śāktas, <i>sect.</i> , . . . . .	358	Śāsimauji, <i>s. a. Śiva</i> , . . . . .	202
Śakti, <i>wife of Kāmadēva</i> , . . . . .	324 n. 1, 326 n. 4	Śāstā, <i>image</i> , . . . . .	16 n.
Śakuntalā, <i>quoted</i> , . . . . .	343 n. 2	Śāstras, . . . . .	294
Śālinī, <i>metre</i> , . . . . .	197	Sataṭa-Padmāvatī-vishaya, <i>di.</i> , . . . . .	189, 190
Śāluva-Narasimha, <i>ch.</i> , . . . . .	196, 197	Śatrumalla, <i>sur. of the Pallava k. Mahēdra-</i>	
Samāchārādēva, <i>Gupta k.</i> , . . . . .	318	varman I, . . . . .	15 n.
Samatata, <i>di.</i> , . . . . .	349, 353, 354, 355, 358	Śāttan Śāttan, <i>sur. of Eṇādi</i> , . . . . .	294, 300
Śambhu, <i>s. a. Śiva</i> , . . . . .	116, 120, 202	Satyamaṅgalam, <i>vi.</i> , . . . . .	195
Śāmbilaka, <i>vi.</i> , . . . . .	106 add.	Satyāśraya, <i>sur. of W. Chalukya kings</i> , . . . . .	9, 120, 123
Samgrāma-vijayōttuṅgavarman, <i>Śailēndra k.</i> , . . . . .	313	Satyāśraya or -dēva, <i>W. Chalukya k.</i> , . . . . .	7, 9
Samkrānti-dhavaḷa, <i>biruda of the Kādamlā ch.</i>		Śaulkika, <i>official</i> , . . . . .	325
<i>Jayakēsi</i> , . . . . .	119	Saurāshṭra, <i>s. a. Kāthiāwād</i> , . . . . .	316 n. 4
Samprasāraṇa, . . . . .	328	Śaurisārman, <i>m.</i> , . . . . .	356
Samudra-Gupta, <i>Gupta k.</i> , 13 add., 313 n. 2, 316 n. 2		Savarāja (Śabarāya), <i>m.</i> , . . . . .	330
Samvat-Vikrama-Samvat, . . . . .	326	Sayōga, <i>m.</i> , . . . . .	356
Samyak-Sambuddha, <i>s. a. Buddha</i> , . . . . .	328, 330	seal (Bāṇa), . . . . .	1
sandhi, omission of, . . . . .	202, 327, 335	seal, shaped like a signet-ring . . . . .	194
Śāṇḍilya, <i>sage</i> , . . . . .	356	seasons :—	
San-fo-teal, <i>s. a. Śrīvijaya</i> , . . . . .	313	grishma, . . . . .	335, 337
Saṅgam, <i>Academy of Tamil poets</i> , . . . . .	295 & n. 1	rainy season, . . . . .	339
Saṅgaṇa, <i>Vijayanagara k.</i> , . . . . .	111, 116, 194, 202	Śēliyan, <i>the Pāṇḍya k.</i> , . . . . .	306
Saṅgha (congregation of Bhikshus), a jewel of		Śēliyan, <i>s. a. Neḍuñjeliyan</i> , . . . . .	297
Buddhist faith, . . . . .	190, 191, 327 n.	Śēliyan Vānavan Śēṇḍan, <i>Pāṇḍya k.</i> , . . . . .	293
Saṅgbārthamitra, <i>m.</i> , . . . . .	327	Śēmbiyan, <i>the Chōla k.</i> , . . . . .	307 n. 1
Saṅkalpayōni-Kāmadēva, . . . . .	324 n. 1	Śēmbiyan, <i>sur. of Śāḍaiyan</i> , . . . . .	293, 307
Saṅkarshana, <i>image</i> , . . . . .	317	Śēna, <i>dy.</i> , . . . . .	189, 349, 350, 355, 356, 359, 360
Saṅkha (conch-shell), . . . . .	352	śēnāpati, <i>title</i> , . . . . .	294, 309
Sāṅkha, . . . . .	197, 204	Śēṇḍan, <i>sur. of Śēliyan</i> , . . . . .	297, 306
Sāṅkirṇajāti, <i>sur. of the Pallava k. Mahēn-</i>		Śēṅḍi, <i>vi.</i> , . . . . .	294, 297, 307
dravarman I, . . . . .	16	Śēṇḍilam, <i>vi.</i> , . . . . .	293, 297, 306
Sāntisārman, <i>m.</i> , . . . . .	109	Śēranaibāṇḍaperumā-nallūr (Śēranaivēpra-perumā- nallūr), <i>et.</i> , . . . . .	111, 112, 116, 117 and add.
Śarabhaṅga, <i>official</i> , . . . . .	311, 325	serif, . . . . .	292
Śarabhapura, kings of, . . . . .	13	Śēśha, <i>serpent</i> , . . . . .	304, 327
Śara, <i>grass</i> , . . . . .	343	Śētti Brahmāya, <i>m.</i> , . . . . .	7, 9, 10
Śarāṅgūrya, <i>m.</i> , . . . . .	197, 203, 204	Sewu temple at, . . . . .	312
Sarasvatī, <i>goddess</i> , . . . . .	308	Shābi, <i>title of Kushān kings</i> , . . . . .	11
Sārdūlavikridita, <i>metre</i> , . . . . .	197, 202, 318	Shahpur, <i>vi.</i> , . . . . .	359
Sārnāth Museum, . . . . .	2		

<sup>1</sup> The figures refer to pages: *n.* after a figure, to footnotes; and *add.* to the additions on pp. vii to xiii. The following other abbreviations are used:—*ch.*=chief; *co.*=country; *di.*=district or division; *do.*=ditto; *dy.*=dynasty; *E.*=Eastern; *f.*=female; *k.*=king; *m.*=male; *mo.*=mountain; *ri.*=river; *s. a.*=same as; *sur.*=surname; *te.*=temple; *vi.*=village or town; *W.*=Western.

	PAGE
Shi-li-ch'a-ta-lo (Śrīkṣhētra), <i>co.</i> , . . . . .	354
Siddaladēvi, <i>queen of the Vijayanagara prince</i>	
Pratāpa, . . . . .	194, 196, 203
siddham, . . . . .	352
Siddhānta-Śirōmaṇi, <i>astronomical work</i> . . . . .	124, 125
sign-manual, . . . . .	103, 111
Sihor, <i>vi.</i> , . . . . .	110
Śilabhadra, <i>m.</i> , . . . . .	358
Śilāhāra, <i>dy.</i> , . . . . .	314
Simhaviṣṇuvarman, <i>Pallava k.</i> , . . . . .	15 n.
Simhapura, <i>vi.</i> , . . . . .	110
Sina-chChōḷaṇ, <i>biruda of the Pāṇḍya k. Parāntaka</i>	
Neḍuñjadaiyaṇ . . . . .	294, 308
sine-values, of the sun's centre, . . . . .	124
Siṅgappa or Siṅgaṇa-Daṇḍanāyaka, <i>ch.</i> , . . . . .	196
Siṅṇamaṇḍūr, <i>vi.</i> , . . . . .	295
Śirijja (Śrīyārya), <i>m.</i> , . . . . .	330
Śiva, <i>god</i> , . . . . .	1 and add., 2, 6, 16, 17, 116, 194, 202, 203, 298, 294, 304, 305, 307, 326, 327, 333, 343 n. 4, 349, 358
Śivabhaṭṭāraka, <i>m.</i> , . . . . .	7
Sivamāra I, <i>Gaṅga k.</i> , . . . . .	296
Śivaśarman, <i>m.</i> , . . . . .	348
Sivatama, <i>m.</i> , . . . . .	7
Skanda, <i>god</i> , . . . . .	305, 326
Śōḷaṇ, <i>the Chōḷa k.</i> , . . . . .	307
Śōḷaṇ, <i>title of the Pāṇḍya k. Śadaiyaṇ</i> , . . . . .	293, 307
Śōḷavandāṇ, <i>vi.</i> , . . . . .	297
Śōḷiya-Enādi Tirukkappāṇ, <i>Malaiyamāṇ ch.</i> , . . . . .	315
Sōmalāpuram, <i>vi.</i> , . . . . .	193, 195, 197, 204
Sōmapāla, <i>m.</i> , . . . . .	348
Sōmapītha, <i>a draught of the Sōma-juice</i> , . . . . .	7
Sōmēśvara I, <i>W. Chālukya k.</i> , . . . . .	121
Sragdharā, <i>metre</i> , . . . . .	318
Śrī, <i>s. a. Lakshmi</i> , . . . . .	203, 308
Śrībhadrā, <i>m.</i> , . . . . .	348
Sri-Chandra or Sri-Chandra-Dēva, <i>Chandra k.</i> , 188, 189, 190, 192, 350	
Sri-Chattala, <i>s. a. Chattagram</i> , . . . . .	354
Śrī-Dēvapālādēvasya, <i>legend on seal</i> , . . . . .	310
Śrīgiri, <i>s. a. Pratāpa or Praudhapratāpa-Dēvarāya</i> , 195, 196	
Śrīgirimātha-Uḍaiyar, <i>s. a. Śrīgiri</i> , . . . . .	196
Śrīmādhavavarman, <i>legend on seal</i> , . . . . .	334, 338
Śrinagara-Bhukti, <i>di.</i> , . . . . .	311, 317, 324
Sri-Nagara, <i>s. a. Patna</i> , . . . . .	317 and add.
Śrīparvata, <i>s. a. Śrīśailam</i> , . . . . .	335, 337, 338, 339

	PAGE
Śrīpati, <i>astronomer</i> , . . . . .	17
Śrī-prithivīvallabha, . . . . .	8
Śrīpur, <i>vi.</i> , . . . . .	188
Śrīraṅgam, <i>island</i> , . . . . .	110, 111
Śrīśailam, <i>hill</i> , . . . . .	335, 338
Śrīśailam plates of Virūpākṣa II, . . . . .	195, 196, 197 n.
Śrī-Śrī-Chandra-dēvaḥ, <i>legend on seal</i> , . . . . .	188
Śrī-vaḥana-bhūṣaṇam, <i>quoted</i> , . . . . .	112
Śrīvara or Śrīvaraṇ, <i>biruda of the Pāṇḍya k.</i>	
Parāntaka Neḍuñjadaiyaṇ . . . . .	294, 295, 308
Śrīvaramaṅgala, <i>s. a. Vēlaṅḍi</i> , . . . . .	295
Srīvijaya, <i>s. a. Palembang</i> , . . . . .	312, 313 & n. 3, 315
Sri-Virūpākṣa, <i>sign-manual of Vijayanagara</i>	
<i>kings</i> , . . . . .	194, 202, 204
Śrī-vishaya (Śrī-Viśaiya), <i>co.</i> , . . . . .	312 n. 5
Sthālikkaṭa-vishaya, <i>di.</i> , . . . . .	346
Stambhēśvaradāsa, <i>m.</i> , . . . . .	348
Subrahmaṇya, <i>god</i> , . . . . .	16, 17
Śuddhōdana, <i>k.</i> , . . . . .	326, 327
Sūḍi, <i>vi.</i> , . . . . .	121
Sugata, <i>s. a. Buddha</i> , . . . . .	189, 190, 192, 311
Sūlēṅḍi temple . . . . .	121
Sumatra, . . . . .	312, 313, 314, 315, 316
summer season (grīṣma), . . . . .	11
Sundaramūrti-Nāyaṇār, <i>Saint saint</i> , . . . . .	315 n.
Sun, <i>god</i> , . . . . .	16 n., 358
Sun-god, <i>image of</i> , . . . . .	357
sun, <i>symbol on seal</i> , . . . . .	334
Sunaiṇṇa-nalūr, <i>vi.</i> , . . . . .	111, 112, 116, 117 and add.
Surāṣṭra, <i>di.</i> , . . . . .	109
Sūrōja, <i>m.</i> , . . . . .	123
Sūryasiddhānta, <i>astronomical work</i> , . . . . .	8, 124 n., 125
Susunia, <i>hill</i> , . . . . .	346
Śuttakēśari-pPerumbanaikkāraṇ, <i>m.</i> , . . . . .	294 add., 309
Suvarṇabhūmi (Indo-China), . . . . .	312
Suvarṇa-Chandra, <i>Chandra k.</i> , . . . . .	189, 190, 192
Suvarṇadvīpa, <i>s. a. Sumatra</i> , . . . . .	311, 312, 316, 325
Svāmīnāga (possible emendation of Bhūmināga), <i>Naga</i> , . . . . .	11
svasti, . . . . .	352
Svastika, <i>symbol</i> , . . . . .	334
T	
t, final form of, . . . . .	335
t, form of, . . . . .	12
tadāyuktaka, <i>official</i> , . . . . .	325

<sup>1</sup> The figures refer to pages: n. after a figure, to footnotes; and add. to the additions on pp. vii to xiii. The following other abbreviations are used: =ch. = chief; co. = country; di. = district or division; do. = ditto; dy. = dynasty; E. = Eastern; f. = female; k. = king; m. = male; mo. = mountain; ri. = river; s. a. = same as; sur. = surname; te. = temple; vi. = village or town; W. = Western.

	PAGE
Tādikonda, vi., . . . . .	328
Tagadūr, s.a. Dharmapuri, . . . . .	296
Talakād, vi., . . . . .	296
tālas in music, . . . . .	16
Tamīl numerals, . . . . .	292
Tāmrāipti (Tamluk), vi., . . . . .	314
Tanjore, vi., . . . . .	313, 315 n.
Tāṇṇikonda, s.a. Tādikonda, . . . . .	328
tāntraka (tāntrika), . . . . .	325 n. 3
tantras, . . . . .	325
Tārā, Buddhist goddess, . . . . .	312, 314, 316, 326
Tārā, image, . . . . .	317
Tārā, Śailendra queen, . . . . .	311, 315, 316, 326
tarapatika, official, . . . . .	325
tarika, do., . . . . .	325
tarikkadamai, tax, . . . . .	112
Tarpandighi, vi., . . . . .	301
Tatāka, vi., . . . . .	358
Tattap (Datta), m., . . . . .	315 n.
Telugu country, . . . . .	314
Tennap (Pāṇḍya), Epithet of Pāṇḍya kings, . . . . .	307, 308
Tēppa-Vāpavaṇ, biruda of the Pāṇḍya k. . . . .	
Śadaiyaṇ, . . . . .	293
Tēppavar, the Pāṇḍya kings, . . . . .	307
Tēr-Māṇṇ, Pāṇḍya k., . . . . .	294, 295, 296, 297, 307
ṭā, doubled after r, . . . . .	12
Thanesvar, vi., . . . . .	193
tiger, Chōḷa crest, . . . . .	294, 307
Tilaka, commentary on Rāmāyaṇa, . . . . .	312 n. 1
tilaka, tree, . . . . .	343
Tilak-Chandra, Chandra k., . . . . .	351
Tinnevely, vi., . . . . .	297
tiṇṇai-āyam, tax, . . . . .	112, 117
Tiruchchirāpalli, s.a. Trichinopoly, . . . . .	112, 117 add.
Tiruchchirāpalli-rājya, di., . . . . .	111
Tirukannan Sōḷiya-Eṇādi, Malaiyamāṇ ch., . . . . .	315
Tirukoilūr, vi., . . . . .	315 n.
Tirumalarāya or Sāḷuva-Tirumalarāya, ch., . . . . .	196
Tirumaṅgai, vi., . . . . .	294, 297, 307
Tirumuḍikkāri, Malaiyamāṇ ch., . . . . .	315
Tirumunaiyāpādi, vi., . . . . .	315 n. 1
Tirunāgēśvaram, vi., . . . . .	315 n. 1
Tirunālūr, vi., . . . . .	111, 112, 116, 117
Tiruppuḍalunārudūr, vi., . . . . .	298
Tiruvippirambēḍu, s.a. Guḍimallam, . . . . .	2
Tivara, kings of, . . . . .	13

	PAGE
Tiwarkhēd, plates from, . . . . .	2 n.
To-lo-po-ti (Dvārāpatī), co., . . . . .	354
Toombgees or Tumbgi, s.a. Tumbagi, . . . . .	7
Tōramāṇa, Hūṇa k., . . . . .	193
Trailōkya-Chandra, Chandra k., . . . . .	189, 190, 192
Trailōkyamalla, sur. of the W. Chalukya k. . . . .	
Sōmēśvara I, . . . . .	121, 123
Traiṇurushadēva, temples of, . . . . .	16 n.
tribhaṅga, pose in standing images, . . . . .	360
Tribhuvanamalla, sur. of Vikramāditya VI, . . . . .	118, 120
Triḷūṭa, mo., . . . . .	338, 339
Trichinopoly, rock-cut cave at, . . . . .	14
Trichinopoly, vi., . . . . .	112, 196, 298
Trilōchana-Kadamba, — Kadamba, . . . . .	120
Trimūrti cave, . . . . .	16
triṇa-yūti-gōchara, . . . . .	325 & n. 4
Tripuri (Tewar), vi., . . . . .	335
Trisairāpalli (Tiruchchirāpalli), s.a. Trichinopoly, . . . . .	117
Trivaranagara, vi., . . . . .	335, 337
ṭā for kṣā, . . . . .	291
tulūbhāra, one of the 16 mahādānas, . . . . .	306, 307
Tumbagi, vi., . . . . .	7
Tumbige or Tumbige Agrahāra, s.a. Tumbagi, . . . . .	7, 8, 9
Tuṇḡabhadra, vi., . . . . .	111, 112, 116, 117,
	203, 204
Turushkas (Turks), the Mahomedans, . . . . .	194, 203

## U

u, sign of, . . . . .	291
Udayachandra, m., . . . . .	297 n. 4
Udayamma- or Udayana-Gāvunḍa, m., . . . . .	118, 120
Udaya-śāila, mo., . . . . .	203
Udayēndiram, Bāṇa plates from, . . . . .	2, 3, 6 n.
Udayēndiram, vi., . . . . .	297 n. 4
Umā, s.a. Pārvatī, . . . . .	326
upadhmāniya, . . . . .	108 n. 2, 291, 292, 327, 338
Upajāti, metre, . . . . .	197, 318
uparika, official, . . . . .	325
uparika, do., . . . . .	325
Upēndravajrā, metre, . . . . .	197
Uraiṇūr s.a. Woraiyūr, . . . . .	307
Urāmalla, s.a. Urlām, . . . . .	334
ūrāṇma, . . . . .	112
Urlām, vi., . . . . .	332
Uśanas, s.a. Kāvya, . . . . .	343

<sup>1</sup> The figures refer to pages: n. after a figure, to footnotes; and add. to the additions on pp. vii to xiii. The following other abbreviations are used:—ch.=chief; co.=country; di.=district or division; do.=ditto; dy.=dynasty; E.=Eastern; f.=female; k.=king; m.=male; mo.=mountain; vi.=river; s. a.=same as; sur.=surname; ts.=temple; vi.=village or town; W.=Western.

	PAGE		PAGE
uttamāgram, . . . . .	10 n.	vāṣal-kaṣamai, <i>tax</i> , . . . . .	112, 117
Uttānadvādaśī, <i>titikā</i> , . . . . .	111, 117, 196, 203	vāsa or vāsāna (varshā), <i>the rainy season</i> , . . . . .	339 n. 5
V		Vasudatta, <i>m.</i> , . . . . .	353, 355
v, cursive form of, . . . . .	7	Vāśudēva, <i>Yadu k.</i> , . . . . .	194, 202
v, for p and b in Prākṛit, . . . . .	328	vāta(?), . . . . .	108
va, used for Vasa (Varsha), . . . . .	338, 339	Vātsyāyana, <i>author</i> , . . . . .	317 n. 4
vaḍaki, <i>a carpenter</i> , . . . . .	11 add.	Vedas, . . . . .	6, 7, 16, 17, 197, 204, 307
Vaḍa-Koṅgu, <i>co.</i> , . . . . .	296	vedic sacrifice, . . . . .	293
Vaḍnagar, <i>vi.</i> , . . . . .	109	Vēlaṅgudi, <i>vi.</i> , . . . . .	295
Vaidya or Vaidyaka, <i>family</i> , . . . . .	294, 295, 308, 309	Vēlvikudi, <i>vi.</i> , . . . . .	291, 292, 293, 295, 297, 306, 308
Vaiṣṇava, . . . . .	358, 361	Vēṇbai, <i>vi.</i> , . . . . .	295, 297, 309
Vaiṣṇava-Dharma, <i>quoted</i> , . . . . .	294, 309	Vēndarāyanallūr, <i>vi.</i> , . . . . .	112
vaiśvadēva, . . . . .	110	Vēṇujja (Vēṇhujja)=Vishṇuvārya, <i>m.</i> , . . . . .	328, 330
Vākāṭaka, <i>dy.</i> , . . . . .	12 and add., 13, 14, 362	vessel, <i>symbol in the left hand of a Nāga image</i> . . . . .	10
Vaiabhi, <i>s.a.</i> Vālā, . . . . .	105, 106, 109, 110	Vichitrachitta, <i>sur. of the Pallava k. Mahēndra-</i> <i>varman I.</i> , . . . . .	15, 17
Vālā, <i>vi.</i> , . . . . .	106, 110	Vidyākūṭa, <i>vi.</i> , . . . . .	353
Valabha, <i>m.</i> , . . . . .	204	Vigrahapāla (II), <i>Pāla k.</i> , . . . . .	354
Vallabha, <i>k.</i> , . . . . .	294, 295	Vigrahapāla (III), <i>do.</i> , . . . . .	354
Vallabha, <i>sur. of W. Chalukya kings</i> , . . . . .	296, 309	Vijayabāhu, <i>sur. of the Bāṇa k. Vikramāditya</i> <i>(III)</i> , . . . . .	3
Vallam-Dhaṭṭa, <i>m.</i> , . . . . .	204	Vijaya-bhūpati, <i>Vijayanagara k.</i> , . . . . .	111, 116, 194, 195, 196
Vālmiki, <i>author</i> , . . . . .	16	Vijayachandra, <i>m.</i> , . . . . .	334
Vāmaśakti or Vāmaśakti-paṇḍita-dēva, <i>Śaiva</i> <i>teacher</i> , . . . . .	118, 120	Vijaya-Dēvarman, <i>Śālaṅkāyana k.</i> , . . . . .	527
Vamśastha, <i>metre</i> , . . . . .	292, 318	Vijayāditya (I), <i>Bāṇa k.</i> , . . . . .	2, 3, 6
Vānavan, <i>title of Pāṇḍya kings</i> , . . . . .	297, 306, 307, 308	Vijayāditya (II), <i>do.</i> , . . . . .	2, 3, 6, 7
Vānavan, <i>the Chēra k.</i> , . . . . .	307 n. 1	Vijayāditya (III), <i>do.</i> , . . . . .	
Vaṅga, <i>co.</i> , . . . . .	116, 349, 350, 356	Vijayanagara, <i>dy.</i> , . . . . .	110, 111, 195
Vaṅgōta, <i>m.</i> , . . . . .	356	Vijayanagara, <i>vi.</i> , . . . . .	111, 112, 116, 194
Vaṅji, <i>s.a.</i> Karūr, . . . . .	204, 297, 298, 307	Vijaya-Sōna, <i>Sōna k.</i> , . . . . .	360
vāṇ-payir, <i>tax on</i> , . . . . .	112 add., 117	Vijaya-Śrī, . . . . .	116 add.
varada or varada-mudrā, <i>pose of hand in images</i> , . . . . .	163, 360	Vikramāditya, <i>k.</i> , . . . . .	116
Varaṅga, <i>Pāṇḍya k.</i> , . . . . .	3	Vikramāditya (I), <i>Bāṇa k.</i> , . . . . .	2, 3, 6
Varāha-svāmin, <i>m.</i> , . . . . .	346, 348	Vikramāditya (II), <i>do.</i> , . . . . .	1, 2, 3, 6, 7
Vāraṇāsi (Benares), <i>vi.</i> , . . . . .	119, 121	Vikramāditya (III), <i>do.</i> , . . . . .	3
varaṇa, <i>tree</i> , . . . . .	343	Vikramāditya I., <i>W. Chalukya k.</i> , . . . . .	340, 343
Varasēna-gaṇa, . . . . .	121, 123	Vikramāditya VI, <i>do.</i> , . . . . .	117, 118
Varḍhana kings, of Thanjavur, . . . . .	193	Vikramādityavarman, <i>s. a. the Bāṇa k. Vikramā-</i> <i>ditya II.</i> , . . . . .	2, 6
Varendra Research Society Museum, . . . . .	345	Vikramahēndravarmān II, <i>Viśṇukunḍin k.</i> , . . . . .	334 n. 2
Varendri (north Bengal) <i>di.</i> , . . . . .	356	Vikramapārāga, <i>biruda of the Pāṇḍya k. Pa-</i> <i>rāntaka-Nedūñjadaiyan</i> , . . . . .	296
Varēndri-Brāhmaṇas, . . . . .	356	Vikramapura, <i>s. a. Arasibidi</i> , . . . . .	121, 123
Vargapāla, <i>m.</i> , . . . . .	348	Vikramapura (Vikrampur), <i>vi.</i> , . . . . .	188, 189, 190, 192, 356, 359
Varman, <i>dy.</i> , . . . . .	189, 350		
Varōdaya-Bhaṭṭa, <i>m.</i> , . . . . .	293, 305		

<sup>1</sup>The figures refer to pages: n. after a figure, to footnotes; and add. to the additions on pp. vii to xiii. The following other abbreviations are used:—*ch.*=chief; *co.*=country; *di.*=district or division; *do.*=ditto; *dy.*=dynasty; *E.*=Eastern; *f.*=female; *k.*=king; *m.*=male; *mo.*=mountain; *ri.*=river; *s. a.*=same as; *sur.*=surname; *te.*=temple; *vi.*=village or town; *W.*=Western.



	PAGE
Vikramēndra or Vikramēndravarmān I, <i>Vikṣaṇ- kuṇḍin k.</i> , . . . . .	385
Vikramēndravarmān II, <i>do.</i> , . . . . .	385
Vilembali, <i>vi.</i> , . . . . .	335, 337
Vilvēli, <i>k.</i> , . . . . .	293, 306
Vinayachandra, <i>m.</i> , . . . . .	331
vinīyuktaka, <i>official</i> , . . . . .	109, 325
vipra, a <i>Brāhmaṇa</i> , . . . . .	314
Viprapīṭha, <i>s. a. Tiruvippirambēḍu</i> , . . . . .	2, 6, 7
viragal, . . . . .	2
Virajja (Virāya), <i>m.</i> , . . . . .	330
virāma, . . . . .	1, 291
Virāṇa, Virāṇāya or Vēraṇāchāya, <i>m.</i> , . . . . .	197 & n. 204
Virapratāpa, <i>title of Vijayanagara kings</i> , . . . . .	117, 195
Virapurōga, <i>biruda of the Pāṇḍya k. Parāntaka- Neḍuṇṇajaiyan</i> , . . . . .	295
Vira-Vijayarāya-Mahārāya, Vira-Vijayarāya or Vijayarāya, <i>s. a. Vijaya-bhupati</i> , . . . . .	195
Virōchana, <i>mythical k.</i> , . . . . .	2, 6
Virūpāksha, <i>te.</i> , . . . . .	111, 117, 203, 204
Virūpāksha (II), <i>Vijayanagara k.</i> , . . . . .	194, 195 196, 203, 204
Virūpākshapuram, <i>s. a. Sōmalāpuram</i> , . . . . .	197, 207
Virūpākshāya, <i>m.</i> , . . . . .	197, 204
visarga, . . . . .	194, 292
visṭaya, <i>a district</i> , . . . . .	316, 318, 346
Vishayapati, <i>official</i> , . . . . .	325
Vishṇubhadra, <i>m.</i> , . . . . .	348
Vishṇudharmōttariya, <i>quoted</i> , . . . . .	324 n. 1
Vishṇu, <i>god</i> , . . . . .	2, 6, 14, 15, 16, 17, 116 <i>add.</i> , 194, 305, 308, 326, 353, 355, 356, 361
Vishṇu, <i>image</i> , . . . . .	355, 356
Vishṇukuṇḍin, <i>family</i> , . . . . .	334, 335, 337, 338, 339
Vishṇuyardhana Yaśōdharman, <i>s. a. Yaśōdharman</i> , . . . . .	193
vīthi, <i>a division</i> , . . . . .	318 & n. 2
Vitṭharasa-Oḍeya, <i>ch.</i> , . . . . .	196
vṛitti, <i>a share</i> , . . . . .	197, 204
Vyāghradēva, <i>feudatory</i> , . . . . .	13, 14

	PAGE
Vyāghra, <i>k. of Pundra</i> , . . . . .	316 n. 2
Vy-ghrataṭi, or Vyāghrataṭi-maṇḍala, <i>province</i> , . . . . .	311, 328
Vyāsa, <i>sage</i> , . . . . .	16, 108, 334, 348

## W

Watson Museum of Antiquities, Rajkot, . . . . .	108 <i>add.</i>
Wheel of Buddhist Law, <i>emblem on seal</i> , . . . . .	188
Winter season (hēmanta), . . . . .	11
Woraiyur, <i>vi.</i> , . . . . .	2: 8

## Y

y, consonants doubled before, . . . . .	2, 335, 338
y, inserted after consonants with the <i>e</i> -sign, in Tamil, . . . . .	202
ya, form of, . . . . .	202
ya and yu, <i>amūṣika</i> forms of, . . . . .	201
Yadu, <i>myth. k.</i> , . . . . .	116, 194, 202
Yammegēṇūru, <i>vi.</i> , . . . . .	197, 204
Yaśōdhara, <i>commentator</i> , . . . . .	317 n. 4
Yaśōdharman, <i>Mālava ch.</i> , . . . . .	193
Yavabhūmi or Yavadvīpa, <i>s. a. Java</i> , . . . . .	312, 316, 326
Yayāti, <i>myth. k.</i> , . . . . .	343
years, of reign, . . . . .	3, 11, 294, 296, 308, 311, 328, 330, 334, 335, 337, 352, 353, 354, 355, 359, 362
years, of the cycle,—	
Krōdhi, . . . . .	8, 9, 118, 120
Plavaṅga, . . . . .	111, 116, 117
Sarvajit, . . . . .	121, 123, 196, 203
Sārvari, . . . . .	196
Vyaya, . . . . .	196
Ye-poti, <i>co.</i> , . . . . .	314
Yuddhakēśari Perumbapaikkāraṇ, <i>s. a. Suttakēśari</i> Perumbapaikkāraṇ, . . . . .	294 <i>add.</i> , 295, 309
Yudhishtīra, <i>epic hero</i> , . . . . .	326, 348
Yuan-Chwang, . . . . .	353, 354, 358
Yūpa inscriptions, . . . . .	314

<sup>1</sup> The figures refer to pages: n. after a figure, to footnotes; and *add.* to the additions on pp. vii to xiii. The following other abbreviations are used:—*ch.*=chief; *co.*=country; *di.*=district or division; *do.*=ditto; *dy.*=dynasty; *E.*=Eastern; *f.*=female; *k.*=king; *m.*=male; *mo.*=mountain; *ri.*=river; *s. a.*=same as; *sur*=surname; *te.*=temple; *vi.*=village or town; *W.*=Western.







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